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MĀORI PERSPECTIVES APPROACH

Prepared for Ministry for the Environment for the
Options for Contaminants in Organic Waste Project



Prepared for:

Ministry for the Environment
Eunomia Research & Consulting Ltd

Prepared by:

Amy Whetu
Tamoko Ormsby

Whetū Consultancy Group

4 Durham Street
Ngāruawāhia
Waikato NZ

Whetū Consultancy Group is a Māori and Pākehā owned and operated consultancy that seeks to work together with our clients to solve problems and find solutions within New Zealand and globally through research, policy, planning, teaching and advocacy. Māori environmental concerns and indigenous partnerships are our specialty.



Overview

The "Options for Contaminants in Organic Waste" project established by the Ministry for the Environment is aimed at addressing the issue of contamination in organic waste streams. The project seeks to make a substantial positive impact on the development of robust, higher value end markets for processed products, thereby contributing to the financial sustainability of private sector organic waste processing investments.

A pivotal component of this project involves the deliberate integration of Māori principles, with a specific focus on contaminants. This report delineates the critical considerations that the project team must address to produce a comprehensive and substantial body of work that accurately represents the perspectives of Māori on the organic contaminants.

A literature review has been undertaken to identify key themes relating to waste. Key themes have been synthesised and organised according to their conceptual and practical relevance to organic contaminants.

The Māori principles have been summarised in illustrated design that incorporates the use of various *tohu* Māori. The design itself is underpinned by the master concept of *whakapapa*. *Whakapapa* has been utilised to consider the holistic perspectives of Māori toward contaminants as represented below, and weaves together all the various elements presented within the design. The concept of *whakapapa* ensures our considerations of Māori perspectives toward contaminants are not considered in isolation of the wider cultural context. At this preliminary stage, this is our *whakapapa*-centred approach toward Māori perspectives on organic contaminants.

This report describes the elements of the approach and provides a mechanism to consider contaminants and/or the various organics processes from a Māori perspective. Furthermore, the approach allows for better understanding and processing any input from Māori that will be engaged throughout this project.

Introduction

The 'Whakapapa-centred Approach toward Māori Perspectives on Organic Contaminants' (WAMPOC) has three key layers, from the bottom to the top: Context, Analysis & Practice.

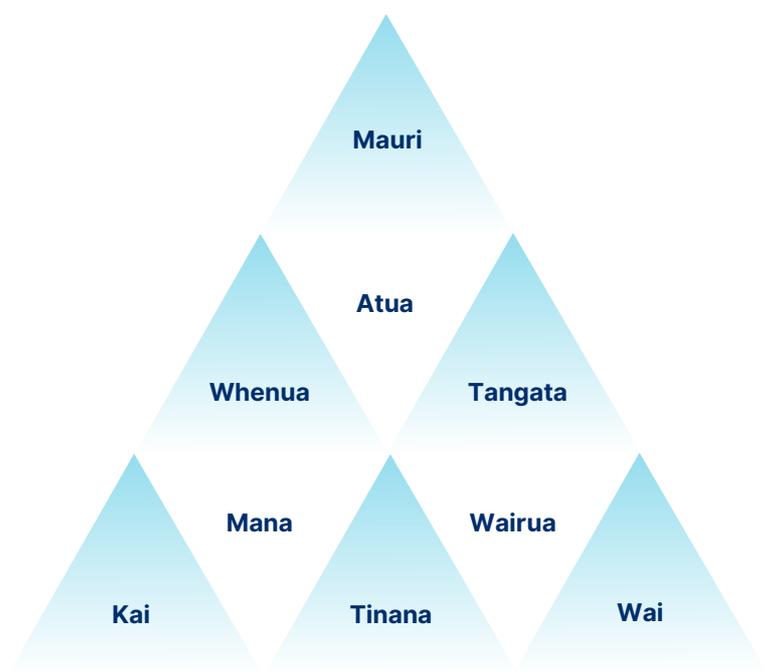
Each layer is woven together with the various interpretations of whakapapa. The Context layer shares the historical aspects of whakapapa that ground the present. The Analysis layer has the rich tapestry of concepts that are woven together by whakapapa as an ontological framework. The Practice layer echoes the tenets of responsibility and relationships that are key to whakapapa.

The WAMPOC is a systematic approach of considering organic contaminants. This is especially important given the emergence of new materials, the bio-accumulation of endocrine-disrupting “forever chemicals”, and the environmental impacts of modern practices that all contribute to organic contamination.

The approach is proposed to be used in the following way:

1. The wider project team will consider the range of organic contaminants and processes from a predominantly western, Eurocentric scientific perspective.
2. The WAMPOC will prompt discussion with respect to each contaminant through each interdependent layer (Context, Analysis & Practice).
3. The outcomes from the preliminary WAMPOC assessment will inform a position that considers Māori perspectives.
4. This will serve as the project foundation for engagements with Māori.
5. These positions will be reinforced, influenced or challenged through the engagement process.

Whakapapa-driven approach for Māori perspectives on organic contaminants (WAMPOC)



Contemporary | Commercial | Colonialism | Consumerism | Cognitive | Chemical



The following sections will explore the three key layers of the WAMPOC approach.

Layer 3

Practice



Layer 2

Analysis



Layer 1

Context



The components



Practice

This layer assesses the physical and metaphysical practices relating to organic contaminants. Moreover, it looks toward how relationships between Crown Partners and Tangata Whenua work under Te Tiriti given the considerations toward contextual understanding and mātauranga-led analysis.



Analysis

This is a mātauranga-led analysis of physical considerations such as food, to metaphysical concepts such as mana and mauri. This is where mātauranga unique to Māori and iwi would sit. Most likely this knowledge would be based on traditional customs and intergenerational knowledge. As such, this layer has been most informed by literature review and study. It is important to note the interplay between traditional customs and the modern context of the first layer.



Context

This layer refers to the unique positionality of Māori and the various historical, and contextual elements faced by Māori that inform their perspective on organic contaminants. This layer doesn't look at the unique knowledge base of Māori, but rather focuses on the circumstances that face Māori that may impede or influence how Māori implement their unique mātauranga. This is a necessary and pragmatic demographic assessment with respect to organic contaminants that contextualises the mātauranga-led analysis of the second layer.



Layer 1

Context



Layer 1: Context

The Context layer is represented by the *taratara-a-kae*.

The Māori worldview provides a unique perspective on organic contaminants and the challenges presented in the project. This perspective is shaped by a complex interplay of historical and contemporary factors, including traditional practices, the impacts of colonialism, the shift from cultural to commercial leadership, the influence of consumerism, and the introduction of new contaminants.

Understanding this context is a prerequisite for developing effective and sustainable solutions, and meaningfully integrating Te Ao Māori into our solutions. By acknowledging and incorporating Māori values and practices, we can approach environmental challenges in a way that respects the mauri, or life force, of the environment, and fosters a more harmonious relationship between humans and the natural world. In addition, by better understanding the Māori context, we can understand how this context has potentially impacted, influenced or impeded the relationship between the natural world and people, in the present day.

The Context layer is the dedicated focus toward unpacking and understanding these key considerations.



Contemporary | Commercial | Colonialism | Consumerism | Cognitive | Chemical

Māori context to inform Māori perspectives

Understanding Māori perspectives on organic contaminants requires a nuanced appreciation of both historical and contemporary factors, and the demographic context of Māori. Traditional Māori practices, deeply rooted in respect for the environment and the principle of mana, often contrast with contemporary practices influenced by commercial interests and consumerism. The shift from cultural leadership, which prioritised environmental stewardship and sustainable practices, to commercially incentivised decision making, often driven by profit, has significantly impacted Māori communities and their relationship with the environment.

The impacts of colonialism have further complicated this dynamic, as it has often led to a disruption of cultural identity and traditional practices. The introduction of new technologies, industries, and lifestyles, along with chemical contaminants that were not present during pre-colonial times, have posed new challenges for Māori communities. Although many benefits have arisen out of modern materials and processes, they have had a disproportionate impact on Māori as an indigenous people, as a colonised people, and as a people with cultural identity tied to the land.

These are the considerations that contextualise mātauranga-led analysis of organics contaminants, and is an essential preliminary step to ensure that mātauranga is considered holistically of the Māoti context. Though not fully explained within this project, the potential contextual considerations can include:

Contemporary practices vs. traditional practices:

Traditional Māori practices were deeply rooted in respect for the environment, with a focus on sustainable use of resources. Contemporary practices, influenced by modern societal norms and technologies, often diverge from these principles, potentially leading to increased organic contamination. Understanding this shift is crucial to addressing environmental challenges from a Māori perspective.

Commercial and financial prosperity

Cultural leadership within Māori communities traditionally emphasised the protection of the environment and the principle of mana. Commercial leadership, often driven by profit motives that may necessitate the financial well-being of communities or iwi, may be in a position that requires they prioritise short-term gains over long-term environmental health. Recognising these differing priorities can help in developing strategies that balance economic development with environmental stewardship.

The impacts of colonialism on cultural identity:

The impacts of colonialism on Māori are well researched. It has impacted cultural identity and language, disrupted the transmission of traditional intergenerational practices and introduced new ways of interacting with the environment. This disruption can lead to increased environmental degradation, including organic contamination. Acknowledging the impacts of colonialism is essential to understanding Māori perspectives on environmental issues and the context from which Māori are operating within.

The role of consumerism in shaping behaviour:

Consumerism, a byproduct of modern society, has influenced behaviour, often promoting consumption patterns that lead to increased pollution and environmental degradation. Understanding this influence is important when considering Māori perspectives on organic contaminants, as it highlights the tension between modern lifestyles and traditional values of environmental respect and sustainability.

Cognitive dissonance and awareness of issues:

There can be a cognitive dissonance within individuals who are aware of the environmental issues associated with modern practices but feel compelled or constrained by societal norms to participate in these practices. This dissonance is an important factor to consider when addressing organic contamination from a Māori perspective. Both education and awareness campaigns are key to address these issues.

Chemical contaminants that weren't present during pre-colonial times:

The introduction of chemical contaminants that were not present during pre-colonial times presents new challenges for Māori communities. These contaminants, often a result of industrial processes and modern agricultural practices, can significantly impact the health of the land and water, affecting the mauri, or life force, of these elements. The implementation of the WAMPOC approach allows for consideration of new materials that were never encountered during pre-colonial times.



Layer 2

Analysis



Layer 2: Analysis

The Analysis layer is represented by a series of niho taniwha. This outlines the "matauranga-led" approach to understanding Māori perspectives on contaminants.

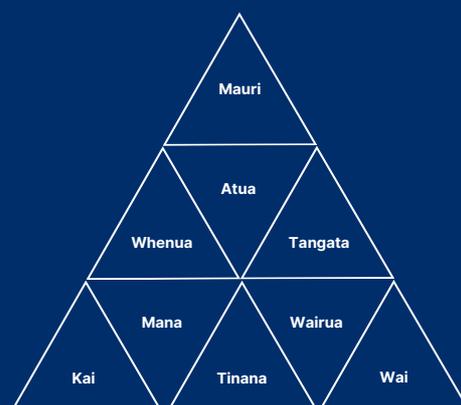
The highest level refers to mauri, the primary consideration from a mātauranga-led perspective. Should the organic contaminant degrade and negatively impact the mauri of its surroundings, this is cause for concern. Mauri is the primary consideration as it is present in all things in the Māori world, and must be maintained for thriving ecosystems and people.

Cascading down the niho taniwha, the next consideration is that of atua; followed by whenua & tangata. These considerations provide more granularity should a definitive position on mauri be undefined or uncertain. These considerations open dialogue for how an organic contaminant and/or remediation or mitigation process can be explored in the context of Māori deities personified within the natural world.

Following this tier, there is mana & wairua. Mana can carry over to a "mana motuhake" discussion focussed on people, as well as *te mana o te taiao* - the mana of the environment. Wairua has connotations of spirituality and the metaphysical processes that are culturally important and symbolic to Māori, including tapu, karakia and various rituals that ensure cultural safety.

Lastly, we have the most tangible of considerations; food, water and the human body. Contaminated food and water is a contamination of the body, and an inhibitor of one's ability to sustain oneself. Therefore, this is the most apparent indicator of the impact of organic contaminants. Further, the human body, and fluids and matter from the body, are also considered. The management of the human body involved important rituals for cultural safety and health purposes.

This is the primary process of analysing organic contaminants and developing "matauranga-led" innovations of mitigation and/or remediation.



Mauri

The recognition of the life principle is captured through the concept of mauri. Mauri is a concept that permeates all Māori thinking. It is the binding force between the physical and spiritual components of all things being (Morgan, 2006). Mauri is the natural holistic force that allows all things to exist synchronously and harmoniously (Marsden, 2003, pp. 44–49). Mauri is considered the spark of life that all things hold. Mauri can be understood as the life force or life essence that animates and exists in all things. Within this ontological framing, all things are deemed to have mauri; people, fish, animals and birds, land, seas and rivers (Barlow & Wineti, 1991, p. 83; Tau et al., 1990).

In the face of environmental decline, there is an ontological turn, the steady transition of Euro-western discourses toward indigenous realisations. Western thought is becoming enlightened to these concepts. Māori academic Te Kawehou Hoskins and Pākehā academic Alison Jones in their chapter 'Non-human Others and Kaupapa Māori Research' (2017) make reference to the term 'thing-power' introduced by White American philosopher Jane Bennett in her book: *Vibrant Matter: A Political Ecology of Things* (Bennett, 2010).

Western notions of mauri 'Thing-power' is thinking about the agency or active power of non-human objects or things in the world, including rocks, trees, animals, and even inanimate objects like machines or tools. In her book, Bennett argues that we should not think of things as passive and inert, but rather as having a kind of vitality or energy that can impact and shape the world around them, suggesting that we need to take seriously the ways in which things can act and affect us. This recognition can have important political implications. Hoskins and Jones are critical of western discourses coming to 'realisations' that have long been part of Indigenous knowledge.

Nonetheless, by recognising the agency and vitality of non-human things, or the mauri within things we can begin to see the world in a more interconnected and ecological way and develop a more responsible and sustainable approach to our interactions with the world around us.

Atua

Atua (deities) are a central aspect of understanding the natural world. Ranginui (sky father) and Papatuuaanuku (earth mother) are predominantly placed as the primary atua. All activity on land and soil either enhance or degrade the wellbeing of Papatuuaanuku, with discharges to air impeding on the wellbeing of Ranginui. This provides initial cues as to how we should conduct our activities.

Harmsworth and Roskruge (2014) detail that from a Maaori perspective, their whakapapa connections place human beings in an environmental context with all other flora and fauna and natural resources 'as part of a hierarchical genetic assemblage, with identifiable and established bonds.' Further, that these connections place large responsibilities and obligations on Maaori to sustain and maintain the well-being of people and natural resources.

Paraphrasing Best, Buck and Keane, the authors note further these ancestral links to the soil:

"All flora and fauna were the grandchildren (mokopuna) of Papa-tū-aa-nuku. In many stories the departmental god Taane Mahuta formed the first woman called Hine ahuone (woman made from earth) from soil before breathing life into her (Buck 1950; Keane 2011b). In other tribal stories, it was a man Tiki-aahua, who was formed from soil by Taane-mahuta (Best 1924b; Buck 1950; Keane 2011b)."

Roberts (2013) details whakapapa as follows:

"Whakapapa as a philosophical construct implies that all things have an origin (in the form of a primal ancestor from which they are descended), and that ontologically things come into being through the process of descent from an ancestor or ancestors."

Further, because there is in Maori cosmogony only one set of primal parents or ancestors (Ranginui and Papatuuaanuku) from whom all things ultimately trace descent, all things are related. In its most familiar guise, that of recording human genealogies or 'family trees', whakapapa describes the descent and relationships of only one 'thing' or species; namely humankind (Homo sapiens) which, depending on tribal origins, can be traced back to one or other of the children of Rangi and Papa"

This is an animistic worldview; one where all things are alive, animated and have mauri. At its most basic level, this animist worldview determines what acts are permissible or unacceptable to Rangi and Papa due to the kinship between humanity and the non-human entities and natural phenomena that fill our world.

Of all the children of Rangi & Papa, the most relevant atua to our project are Taane (associated with the forest and procreation), Tangaroa (associated with the seas), Rongomataane (associated with cultivated foods), Haumietiketike (associated with uncultivated foods) and Hineahuone (associated with soils).

Taane is associated broadly to the forest, and by extension organic materials from the forest. Rongo is associated with horticultural activity and the cultivation of foods for our use, consumption, and wellbeing. Haumie is associated with the gathering and processing of uncultivated foods. Tangaroa is associated with the sea, and as such, any organic material from aquatic environments (Best, 1924). This does not however limit the linkages to other atua, such as Mahuika (deity associated with fire and combustion), but rather serves to unpack and identify the links between atua and our project.

Hineahuone was made from the soils of Kurawaka and is attributed as the first human-being and the first woman in the Maaori creation story. There are many variations of this creation story, but most commonly Taane is attributed to breathing life into her body to bring her into the world. Hineahuone, as the first human woman, is therefore also the first mother, facilitating the connection between atua and humankind. Poignantly, Hineahuone is associated with soils; the primary mechanism by which nature processed organic waste.

Creating a culturally appropriate approach to processing organic materials requires ongoing inquiry into what will either enhance, or diminish, the kinship between humanity and the deities mentioned above. This is the basis of *tikanga* – the protocols that determine behaviour and how we responsibly conduct ourselves such that integrity of these whakapapa relationships is maintained.

Whenua

Whenua is the physical manifestation of Hineahuone and Papatuaanuku; the primary female deities; therefore, whenua carries a strong internal connection that is reinforced through whakapapa and the atua connection of Hineahuone.

The intentional connections between language and meanings for Maaori are further noted to echo these connections between whenua and tangata. Whenua as both placenta and land; rae as forehead or a land promontory, hapuu as pregnancy or sub-tribe.

Whenua also refers to “place” and the capacity of “place” to bring tangata and atua together, to create identity, histories, and legacies. These elements are captured through puuraakau (indigenous narratives). Descending further from Hineahuone to humanity, puuraakau speak of the acts achieved by our Maaori ancestors.

One such puurakau speaks of the initial ancestors who voyaged to Aotearoa on the Tainui waka. This includes the captain of the waka, Hoturoa, and his wife Whakaotirangi. Whakaotirangi is famed for bringing a kete with various seed plants across the Pacific to Aotearoa including kumara, taro and hue. This is known as the ‘small basket of Whakaotirangi’ or *te kete rukuruku a Whakaotirangi*.

This puuraakau around Whakaotirangi reinforces the prevalence of horticultural traditions amongst Maaori and denotes the practices of subsistence horticulture as a means of survival and wellbeing; that is the intentional cultivation and repurposing of organic inputs for the survival and wellbeing of a people.

Notably, soils needed to be improved to compensate for the poor climatic conditions compared with the relative heat required for the taro, kumara and hue that arrived with Maaori to Aotearoa. Maaori quickly recognised the soil properties and types that were most effective.

Noting the significant knowledge developed by early Maaori, clearly notes they were adaptive in their soil management and uses:

“Maaori naming and categorizing of soils was not a systematic taxonomy but apparently intended for the management of root crops. Soil properties and conditions in the temperate climate needed to be improved and many soils were modified accordingly to lift crop success and productivity and extend the range, both geographic/areal and climatic, in which crops could be grown (Clarke 1977; McFadgen 1980; Leach 1984; Singleton 1988; McKinnon et al. 1997; Roskruge 2009, 2011).

The soil qualities emphasized most were coarse texture, friable consistence, and fertility (Hewitt 1992). The increasing use of Maaori terms for soils and the classification of soils went hand in hand with advances Maaori made in horticulture and the planting of crops to increase planting success and yields (at 260).

As such the organic cycle and understanding of soil characteristics is well-established within maatauranga Maaori and is the most familiar aspect of the emerging circular economy concept. Using these ancestral stories provides us the opportunity to weave meaningful connections into the project and assess its outcomes.

These horticultural histories extend into recent identities surrounding the *Kiingitanga* where Rangiaowhia, near Te Awamutu, was once deemed the “garden of New Zealand” in the 1800s. The ability to grow food on ancestral land is the ultimate sign of wealth and wellbeing of a people. It was the powerhouse of the Waikato economy and the commissariat of the Kingitanga movement during the land wars (O'Malley, 2016).

Waikato's ability to *manaaki* was recognised by all iwi. As told by Waikato kaumaatua, this was one of the contributing factors why the mantle was given to Pootatau Te Wherowhero, the first Maaori king. His people would ultimately carry the responsibility of *manaakitanga* for all people of Aotearoa.

Culturally appropriate decision-making regarding organic contaminants must integrate these *puuraakau* (intergenerational stories) that are part of Aotearoa and Māori history and identity; this can add deep meaning, inspire purpose, and ground solutions in place. Further, the role of organic contaminants as barriers to achieving levels of self-determination shown in Rangiaowhia through horticulture is also an important consideration.

Tangata

The *tangata* element refers to people, relationships, and community. Establishing processes that lead to cycles of wellbeing is ultimately a practical exercise of self-determination; the reclamation of identity connected to place, the detoxification of soils and reactivation of food networks, and respecting kinship relationships with atua through responsible and regenerative behaviours.

These processes require the establishment of practices (tikanga) and principles (maataapono) to guide behaviour - our human-response - and inform appropriate development and implementation of solutions.

Hirini Moko Mead (2003) refers to tikanga as a set of beliefs associated with practices and procedures to be followed in conducting the affairs of a group or individual.

“Whether there were values to which the community generally subscribed. Whether those values were regularly upheld is not the point but whether they had regular influence. Maaori operated not by finite rules (but) by reference to principles, goals, and values...Tikanga derived from ‘tika’ or that which is right or just.”

Mead explains that these procedures are established by precedents through time, are held to be ritually correct, are validated by more than one generation and usually subject to what a group or individual can do. Tikanga is generally known as the way of doing things correctly; also known as traditional protocols, customs and practices. They have many elements including practical, spiritual, and ritual elements.

Translating a statement by Pou Temara and Mason Durie (2011):

“Maaori wellbeing and survival is assured when tikanga have an Iho Atua, an Atua connection. If you cannot attach or connect that tikanga to an Iho Atua, well, it may not be a tikanga which can enhance your survival or wellbeing [...] if you cannot connect your tikanga with an Iho Atua then, it is an expendable tikanga, it does not have any huge significance”.

Creating intergenerational wellbeing requires the establishment of modern tikanga to navigate new challenges. In our project context, tikanga that have an atua connection must be developed to maintain whakapapa connections to Atua and maintain the integrity of that tikanga.

As stated above, tikanga were established and validated by more than one generation, thus many tikanga descend from those put in place by ancestors (*tuupuna*). These are intentional acts performed by ancestors to ensure the survival and wellbeing of their descendants (many of which are held in puuraakau).

It's important to note that the implementation of tikanga is varied; although, there can only be so much variation until that tikanga is broken. Underlying principles, or *maataaapono*, influence the appropriate implementation of tikanga, and allow for tikanga to be adopted for modern application.

For example, some tikanga have been put to rest as they are no longer appropriate, such as *utu* and *makutu*. Others have been reinterpreted and adopted to modern times, such as monetary *koha* and the facilitation of online *tangihanga* (funerals).

The discourse (*rangaranga*) around what is deemed appropriate as a tikanga in practice is determined by many factors; the *mana whenua* (governing authority), the *marae* (location), the *haukaainga* (community), and *pou* (experts that may be *kuia* and *kaumatua*). Notably, the relationships with marae, haukaainga, mana whenua and pou are critical in the establishment of tikanga that allows for any forward momentum in any context; the presence, or absence, of these groups is therefore an essential determinant of project success.

The common ground where critical discussion occurs is in the shared principles that tie these groups together. For example, *manaakitanga* is a principle that is generally agreed upon, and therefore a *manaakitanga* led discussion can take place around the subject matter.

Therefore, in creating a "culturally-appropriate" response, and adopting tikanga that govern behaviours, we must consider the interaction between these parties, and the underlying principles by which they can share an engagement.

Wairua

The contamination of whakapapa leads to the wider discussion of spiritual contamination. Wairua is defined as the spiritual health and peace of the land, the food and the people (Hutchings et al., 2012), involving ritual incantation, and the reverence and veneration of Māori deities. Kennedy et al. (2020) address the dominant social paradigm in Aotearoa, stating Milbrath's (1984, p. 7) definition: "the metaphysical, beliefs, institutions, habits...that collectively provide social lenses through which individuals and groups interpret their social world." The dominant social paradigm within Aotearoa is based on the ideas of economic growth and emphasises the principles of laissez-faire economics, individual property rights, and the use of technology to solve environmental problems, which are rooted in the construct of human-domination-over-nature (Kennedy et al., 2020).

This social paradigm has been criticised for its negative impact on the environment and the externalisation of these impacts leading to undesired contamination of organics cycles, such as physical, chemical, and biological contamination of the organics cycle. Furthermore, the idea of "human domination over nature" is held within the monotheistic worldview of Christianity (Gaukroger, 2008; Masuzawa, 2005; Merchant, 1980; White Jr, 1967), which is core to the current dominant social paradigm.

This Western paradigm severs the spiritual and physical, the secular and the sacred, and the connections between nature and humanity. It also fails to recognise the importance of the spiritual connection between people and the land, and places as other; specifically from the ecocentric, animistic, and indigenous worldview of Māori that acknowledges the mauri of all living things, and the kinship between people and the natural world (Marsden & Henare, 1992).

This presents the fundamental conflict between the ecocentric ontology of Māori and the anthropocentric ontologies of dualism and materialism present in monotheistic Christianity. The over-representation of the western worldview in society has given rise to the economy that marginalises the Māori worldview, and therefore Māori, and voids the divinity of the natural world to justify the exploitation of Papatūānuku (mother earth) and Ranginui (sky father).

This contamination of wairuatanga is the failure to recognise the spiritual impacts on these deities, such as Hineahuone, Papatūānuku and Rongomatāne, and the cross-contamination of things tapu and noa (Marsden, 1992; Sachdev, 1989). This spiritual contamination leads to the inability to comprehend the spiritual importance of cultural practices in relation to the organic materials.

Mana

The analysis of contamination through various Te Ao Māori concepts leads to an eventual discussion of self-determination, food sovereignty and waste colonialism. Food sovereignty is a concept that prioritises the right of communities and individuals to have access to healthy, culturally appropriate, and sustainably produced food (Hutchings & Tākupu, 2020).

In a capitalist settler-colonial society, food sovereignty can be seen as a mechanism of self-determination and freedom because it allows marginalised communities to take control of their own food systems and reject the dominant capitalist food system that often exploits the natural world by extension themselves (Patel, 2009).

In the article “Is Māori food sovereignty affected by adherence, or lack thereof, to Te Tiriti O Waitangi?”, Shirley (2013) makes the link between food sovereignty and rangatiratanga, as stated in Te Tiriti o Waitangi, as they both represent a form of sovereignty. Through the colonisation of Māori land and people, the food systems were also colonised.

Shirley concluded that:

“the disempowerment of Māori through their food system ties into a widertrend of Māori, and indeed indigenous people globally, being deliberately targeted and disadvantaged through various aspects of their lives”

The contamination of organic materials and food cycles, and the associated impact on Māori horticultural practices, can be identified as contributing to the ongoing colonisation of the food system leading to food insecurity (McKerchar et al., 2015). Moreover, placing the responsibility of removing physical, biological and chemical contaminants from the organics cycle on local authorities, communities, individuals, and whānau is an extended and covert form of colonialism: waste colonialism.

Waste colonialism is a term used to describe the ways in which the disposal of waste can be used as a tool of colonisation. Waste colonialism occurs when the disposal of waste is used to exert control over Indigenous lands and communities, and to undermine Indigenous rights and self-determination (Fuller et al., 2022). Fuller et al. discuss in reference to plastics pollution:

“Most plastics in circulation do not arrive in countries as 'waste'; their slow violence and deep time implications are concealed in the state-sanctioned legitimization of packaged products as everyday consumer goods”

The challenge of dealing with imported products that enter the waste stream is an issue rooted in globalisation. As such, focusing on local interventions alone to limit and prevent waste from entering food scraps collections, or other organics waste streams is a continuation of the oppression of marginalised communities. This rhetoric is perpetuated by multinational companies to manipulate consumers to put the onus on themselves (Park, 2022).

The global challenge of plastic waste pollution can only be addressed through ambitious and concerted efforts from the international community, including the private sector. This can be achieved through the implementation of extended producer responsibility schemes, such as reuse and refill systems, container deposit or return systems, product stewardship regulations, materials and product bans, and remediation initiatives. Such measures will require commitment and cooperation from all stakeholders to effectively mitigate the “transboundary flow” of plastics entering the organics cycles.

Fuller et al. (2022) conclude that:

“sustainable solutions to plastics pollution for Te Moananui can only come from urgent, locally and globally coordinated and integrated, critically reflexive, and intentional, decolonial responses.”

The role of waste colonialism as a root cause for contamination and the consequential state of food insecurity are underlying mechanisms that inhibit Māori autonomy, security, and self-determination through food sovereignty. This is one way to recognise the contamination of mana.

Kai

Understanding the role of food in relation to the contamination of organic waste is the starting point to understanding Te Ao Māori perspectives on contaminants in the collection of food scraps and processing of organic waste.

Food was, and remains, an invaluable sanctifier for Māori; restoring spiritual and physical balance, allowing for protocols of manaakitanga, and facilitating rituals of whakanoa[1] (Viriaere & Miller, 2018). The significance of traditional kai in Māori culture is also mirrored in the histories and revivals of other indigenous cultures' practices. This reflects the central role that the process of kai plays in Māori culture (Pehi et al., 2009).

The National Māori Organics Group, Te Waka Kaiora, refer to pure food as kai atua. Kai atua is defined as pure food that is free of chemical pesticides, fertilisers and GMOs, where it is produced in ways that accord with Māori values, to support healthy food-secure futures for whānau (Te Waka Kaiora, 2011). Kai atua are creations of deities (atua), passed on by ancestors, and down to future generations as taonga tuku iho. Several indigenous species of kai are held highly in this regard, as well as the other supporting species that are critical to their well-being and fertility.

Subsequently, food production was an activity that held a level of sanctity from planting to harvest (Tawhai, 2013). Viriaere and Miller (2018) state that “for Māori, gardening is underpinned by spiritual connections to their gods and the metaphysical and holistic understandings of how Māori interpret their environment (Marsden & Henare, 1992).” Accordingly, the first principle of producing kai atua is having healthy soil (Hutchings et al., 2018).

Thus the presence of contaminants and heavy metals within the food cycle, through the application of physical, chemical and biological contaminants is detrimental to the sanctity of kai atua and should be recognised first and foremost as the contamination of a spiritual, physiological and cultural sanctifier within Te Ao Māori (Hutchings et al., 2018).

Wai

In the context of Te Ao Māori, the significance of water extends beyond its conventional utilitarian role. Water is perceived not merely as a resource, but as a sacred element integral to the sustenance of life and the land. This understanding forms the foundation for comprehending the Māori worldview on the importance of water.

The Māori perspective underscores the sanctity and significance of water in the preservation of ecosystems and the execution of traditional customs. This viewpoint necessitates a holistic approach to water management, one that respects and incorporates these cultural values.

The relationships between the Māori and water has evolved over different periods. Historically, the waterbodies and waterways have been a symbol of cultural identity and revered as an ancestor through traditional Māori songs (waiata), incantations (karakia), and dance (haka). It was seen as a vital resource for survival, providing sustenance and a subsistence for many iwi.

Today, there is no shortage of challenges and complexities relating to the regeneration of waterbodies to respect this unique relationship Māori hold with the wai (water). Collectives such as Ngā Kaiārahi o te Mana o te Wai Māori and the Freshwater Iwi Leaders Group work to ensure the perspectives of Māori are recognised and the Crown's responsibilities are upheld as Treaty partners.

As such the management of organic contaminants and their potential to contaminate waterways and water bodies is a critical issue to Māori. In addition to disrupting the balance of ecosystems and render water unsafe for human consumption and recreational activities, the contamination of these sacred water bodies infringes upon their intrinsic value to Māori and disrupts the cultural practices, such as mahinga kai, associated with them.

Therefore, effective and culturally sensitive strategies for managing organic contaminants are essential to preserve the health and sanctity of these water bodies, aligning with both environmental sustainability goals and the cultural values of the Māori community.

Tinana

The human body and its functions are deeply connected with the management of organic contaminants, reflecting a holistic worldview that respects the interconnectedness of all elements of the environment.

The concepts of tapu (sacredness or restriction) and noa (normal or free from restriction) play a significant role in this context. As the document "From Tapu to Noa - Māori cultural views on biowastes management: a focus on biosolids" by James Ataria et al. (2016) explains, "Many Māori consider that within the realms of Papatūānuku and Ranginui there exist a range of established processes and relationships that continuously cycle chemicals through the spiritual states of tapu (restricted state) and noa (relaxed or normalised state)" (p. 14).

This can be likened to natural biological and chemical transformations that break down and modify chemical compounds, returning them to the environment in a more benign state. However, there is an additional layer of metaphysical practice that supplements the physical.

For Māori, tikanga and kawa are the means to action these processes of managing tapu and noa, and subsequently managing organic contaminants. For instance, some Māori communities maintain the practice of saying a quiet karakia, when disposing of waste on the marae, or when burying afterbirth, acknowledging the spiritual significance of these acts and ensuring the respect of tapu.

Respecting the principles of tapu and noa is crucial in managing organic contaminants. For example, the application and reuse of wastewater and biosolids, which often contain human waste, must be handled with caution due to the tapu associated with human waste. This is particularly true when considering the reuse within the food chain, which many feel uncomfortable with due to potential health risks and the violation of cultural knowledge and practices. The treatment of the dead was also a significant process involving several stages and rituals, known as tangihanga. Some processes involved natural decomposition of bodies over an extended period. This process would be followed by the cleaning of bones for a "secondary burial" in a safe and culturally significant location.

As such, the implementation of accelerated natural chemical and biological processes without the metaphysical elements involved in cultural practice may be of concern to Māori. Emerging practices such as terramation and aquamation, and the growing adoption of cremation within Māori, create an environment for critical analysis of what Māori deem to be culturally appropriate practices.



Layer 3

Practice



Layer 3: Practice

The partnership between Tangata Whenua and Crown partners plays a pivotal role in establishing and supporting practices that manage organic contaminants in a culturally appropriate manner for Māori and in accordance with the principles of the Treaty of Waitangi. This partnership is not merely a legal or political obligation, but a critical element in the successful and sustainable management of environmental challenges.

Te Ao Māori provides unique insights into environmental stewardship, emphasising the interconnectedness of all things and the importance of maintaining the mauri of the environment. However, the implementation of these insights requires a respectful and inclusive engagement process with Māori and iwi. This process must acknowledge the unique context and challenges faced by iwi, including resource limitations and time constraints.

Furthermore, the engagement process should be high quality, ensuring that the proposed solutions are practical, market-tested, and respectful of Māori values and practices. This necessitates the development of contact protocols that ensure a consistent and professional approach, including briefing stakeholders about the project's purposes, managing engagement, and accurately recording information.

Through this partnership, there must be recognition of power dynamics. These must be considered and retrospectively balanced to allowing for the establishment and support of practices that not only manage organic contaminants but also respect and uphold the Māori relationship with the environment. This approach ensures that the management of organic contaminants aligns with the principles of the Treaty of Waitangi, fostering a more sustainable and harmonious relationship between humans and the natural world.



Implementing physical and metaphysical practices

The current physical and metaphysical practices in place have emerged as a combination of historical circumstances and cultural practice informed by place-based mātauranga. However, it is crucial to recognise that some of these practices may need further support or modification to better align with contemporary challenges. The challenge lies in striking a balance between preserving cultural authenticity and ensuring that these practices are effective in addressing present-day concerns related to organic contaminants.

As treaty partners, the Crown bears a responsibility to foster an environment that allows Māori cultural practices to flourish. This means actively engaging with Māori communities to identify the practices that hold significance both physically and metaphysically. This includes recognising the importance of tapu & noa, and considering concepts such as mauri, and practices such as karakia and whakanoa.

True representation of cultural practices can only be achieved through genuine collaboration and understanding between the Crown and Māori. The Crown must recognise the value of Māori knowledge and expertise, incorporating it into decision-making processes and policy development concerning organic contaminant management. By actively working together as partners, the Crown can take meaningful steps towards enabling the preservation and enhancement of these practices for the benefit of both Māori communities and the broader society.

The management of organic contaminants among Māori communities is not just a product of historical circumstances but also a result of deeply rooted cultural practices. For these practices to be fully effective and representative, the Crown must proactively engage with Māori communities and be committed to building a relationship of mutual respect and collaboration. Through this approach can the Crown honour its treaty obligations and support the flourishing of Māori practices while effectively addressing the challenges posed by organic contaminants today.

Conclusions

We believe that the **Whakapapa-driven Approach for Māori perspectives on Organic Contaminants (WAMPOC)** will provide a robust foundation to guide the future engagement work with Māori, as well as provide the wider project team with a practical approach to considering the nuances of their work with respect to potential Māori considerations.

The WAMPOC is the underpinning project model that allows for effective and thorough preliminary analysis of Māori principles and perspectives of organic contaminants. When applied to the wider project workstream, we believe it will add immense value in guiding discussion both internally and externally of the project.

Future work will involve integrating the WAMPOC within the wider project workstreams through regular team discussions to ensure that our project outputs align with the matauranga-led pillars of the WAMPOC. Furthermore, our engagements with Māori will lead with the preliminary assessments made through our WAMPOC assessment of the identified priority organic contaminants of the project.

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