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SERIES: INDIGENOUS SOCIAL, ECONOMIC & POLITICAL DEVELOPMENT

# MĀORI MARINE ECONOMY:
## A REVIEW OF LITERATURE CONCERNING THE HISTORICAL AND CONTEMPORARY STRUCTURE OF THE MĀORI MARINE ECONOMY

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## Introduction

The Māori Marine Economy (MME) spans small whānau-scale operations using relatively traditional fishing methods inshore through to large mechanised fleets trawling far out in New Zealand's Exclusive Economic Zone (EEZ). The term encapsulates diverse actors in dynamic relationships with a wide variety of marine ecosystems. It can be conceptualised as a wide number of different participants operating in contextually-specific networks of localised economies with wider national and international connections. The participants include independent Māori enterprises, whānau businesses, units within hapū or iwi structures, iwi incorporations and larger collective iwi entities who operate in multiple, often interconnected, resource sectors. One important caveat, while the MME *in toto* also encompasses tourism, mining and other marine-based commercial operations, this report will focus on fisheries – though the wider scope of the project will seek to include these related sectors. While these are important components of the MME, fisheries dominate the MME in terms of income and, arguably, have the biggest environmental impact and this singular focus provide the report with a greater analytic capacity.

The Sustainable Seas National Science Challenge "vision is for New Zealand to have healthy marine ecosystems that provide value for every New Zealander". The Tangaroa Programme that sits within this Challenge is focused on helping "enable Māori to participate as partners in marine management, provide for the practice of tikanga/Māori custom, and support economic growth". Practicing tikanga and supporting economic growth are not just individually important goals; the former is vital if the latter is to be achieved. A wealth of research has shown that any initiative which aims to increase productivity or add value must be 'culturally-matched' with indigenous institutions (e.g. knowledge systems, values, property rights, organisational structures etc.) to be successful (Acemoglu et al. 2001; Altman 2004; Cornell and Kalt 1995; 2000).

Crucially, as well as growing whai rawa (financial wealth), a culturally-matched approach will also assure the marine environment remains healthy for future generations, as the Māori worldview—particularly what might be referred to as the 'operating principles and practices' of kaupapa and tikanga—emphasises sustainable resource management. Philosophically, this emerges out of understanding the interconnectivity between humans and the environment, while practically it manifests in a set of 'operating principles and practices' including: kaitiakitanga (an ethic of intergenerational ecosystem care), rangatiratanga (an ethic of authority/independence), whānaungatanga (an ethic of communal growth) and manaakitanga (an ethic of generosity). Accordingly, the operating principles and practices that emerge from the Māori worldview provide a template for profitable yet sustainable resource use.

Much of the MME is already guided by these operating principles and practices, resulting in a focus on restoring and growing mauri; the intergenerational transfer of wealth; supporting Māori identity; and flourishing of whānau, hapū and iwi well-being. That said, there is need for a transformational change that goes beyond individual actors in the MME. We need to implement significant systemic change to balance short-term gains with long-term resilience, predicated on the understanding that social and natural 'capital' are not only equally as important as financial capital, but that all three are interlinked (Rout et al. 2018). Efforts to

implement this transformational change are too complex for markets, local governments, iwi and communities to manage independently, leading to the development of integrated approaches such as the ecosystem approach (EA) and ecosystem-based management (EBM) and the value metrics of ecosystem services (ES). However, these have been found lacking when attempting to represent indigenous values as they are often incompatible with indigenous worldviews. Any transformational change requires the involvement of all stakeholders to ensure organisations and institutions are aligned. Beyond this, the wider environment of modern states is generally antagonistic to indigenous worldviews and their knowledge systems, values frameworks and operating principles.

The overall goal of this project is to create a foundation for New Zealand to become a world-leading indigenous blue economy. This will be done through the identification and dissemination of strategies that support the economic development of Māori organisations that rely on marine ecosystems and the environmental maintenance of these spaces. This project's specific aims are to: (1) identify policy and regulatory tools that foster marine ecosystem and economic management and also reflect Māori knowledge systems, values frameworks and operating principles; (2) develop kaitiaki business models that embed Māori commercial activity within sustainable ecosystem processes; (3) integrate kaitiaki business models with frameworks for the development of sustainability tracing and authentication systems that will capture premiums for Māori marine products.

This report begins by defining 'blue economy' and what is meant by an indigenous 'blue economy'. Next, it outlines the Māori worldview in order to delineate the full parameters of an indigenous blue economy. It then introduces the traditional Māori marine economy before contact and colonisation, describing property right structures both generally and with specific reference to marine resources, elucidating the impact colonisation had on these structures, and examining traditional systems of exchange that characterised the MME and its sustainable resource management methods. The report provides an outline of the MME post-Te Tiriti, from the whānau- and kāinga-centred fishing villages of the early 1800s through to the MME of the 1950s-70s. It is described how the removal of the original Maori property right structures and appropriate governance regimes led to a 'tragedy of the commons' situation and subsequent overexploitation of the fisheries.

Significant analysis is then invested exploring the introduction of the individual transferable quota (ITQ) system to New Zealand, and, in particular, its impact upon Māori. It is then outlined how many Māori failed to receive quota through the ITQ introduction, creating grievances. Furthermore, the Crown's ownership of New Zealand's marine resources was challenged in court by Māori. The courts found that the Crown did not own fisheries because they had never purchased them from Māori. The result was a treaty negotiation from which iwi emerged with secure commercial fishing quota, customary rights to fisheries, and coastal governance responsibilities.

However, this arrangement created a number of problems. Firstly, the settlement fragmented quota across many iwi meaning that few iwi held enough quota to operate commercial fishing operations of their own accord. Secondly, it consolidated ownership at an iwi level when the traditional Māori economy positioned ownership and economic activity at the whanau and

hapū scale. Thirdly, the creation of customary rights limited the ability of whānau and hapū to trade fish as they had done throughout history. Some iwi are attempting to deal with this difficult situation by creating strategies for devolving ownership and control of commercial fisheries from iwi entities to whānau and hapū control.

The report then tackles the relationship between mātauranga Māori and ecosystem-based management (EBM)/ecosystem approach (EA). Criticism is directed at the reliance of EBM/EA on the economically-premised ecosystem services (ES). It is argued ES uses econometric language that reduces the environment to its monetary value, ascribing worth to only the 'services' that the environment has to offer humans. From a Māori perspective, the marine environment is the sphere of Tangaroa, which is made-up of animals, plants, and elements that humans are intimately related to through whakapapa (geneaology). Tangaroa from this perspective is not a 'resource' or 'service' to be managed for output, but a fellow relation who supports communities when engaged with respectfully and appropriately. Despite this philosophical tension with ES, mātauranga Māori has much stronger affiliations with the elements of EBM/EA that view humans as an integral and interconnected part of marine ecosystems and encourages marine management and governance that emphasises cooperation and integration across sectors and stakeholders.

It is asserted that the Māori worldview and approach to managing the marine ecosystem and economy provides a number of commercial advantages to Māori businesses. The report explores the development of premium markets for products that are produced using sustainable means and a social conscience. Businesses driven by Māori principles, practices and mātauranga have a story that encompasses these attributes while providing a platform for selling products to consumers with a conscience. Furthermore, it is outlined how the whanau, hapū, iwi structures of Māori society could support the development of integrated value-chains that would permit authentic connections between Māori communities and consumers of kaupapa Māori products.

Finally, the report outlines the approaches to marine management employed by other indigenous peoples internationally. This analysis determines that indigenous people share a common approach to their relationships with the marine ecosystems. There is an emphasis on entwined economic, spiritual, and familial connections with the marine environment. However, indigenous people in different parts of the globe each deal with different colonial government regimes, which require different approaches and responses to context.

The analysis in this report will be used to inform the underpinning theory of the 'Whai Rawa, Whai Mana, Whai Oranga' project, which aims to support the economic development of Māori organisations that rely on marine ecosystems. The primary purpose of the project is to develop an evidence base to achieve a series of aims. The first aim is the development of policy and regulatory tools in the marine space that reflect Māori knowledge systems, values frameworks and operating principles. The second aim is to support kaitiaki business models that embed Māori commercial activity within sustainable ecosystem processes. The third aim is to integrate kaitiaki business models with frameworks for the development of sustainability tracing and authentication systems that will capture premiums for Māori marine products. The fourth aim is to support the commercialisation, extension or adoption of Māori marine

management ideas, processes, and products that support economic and ecological development for marine resources and communities.

## Blue economy

For many years the west – or more accurately the western market – has viewed oceans as an infinite resource to be exploited for human benefit. With numerous species extinctions, population collapses and ecosystem declines across the world's oceans, this assumption has become unsustainable and oceans have been more recently characterised as 'the common heritage of mankind' (UNCLOS 1982), as susceptible and vulnerable to 'the tragedy of the commons' (Berkes et al. 2006), as a significant ecological frontier (Steinberg 2008), and as important contributors to 'lifestyle and culture' (Crowder and Norse 2008). Oceans have become an increasingly important focus across a diverse array of interests and areas, from their role in sustaining life on Earth to their personal importance to different groups. This represents a growing understanding occurring in the west of interconnectedness across political, economic, social, cultural and natural spheres, a long held and common understanding across most indigenous societies.

One term that brings many of these different perspectives together – and has been associated with indigenous approaches – is 'blue economy'. It has emerged as a framing to capture growing interest in the coasts and oceans as sites for economic development (Lewis 2018; Winder & Le Heron 2017), inclusive of the associated concerns about the ecological and environmental consequences of exploitation (Lewis 2018). The World Bank (2017) defines the 'blue economy' as "sustainable use of ocean resources for economic growth, improved livelihoods and jobs, while preserving the health of ocean ecosystems". In the UNESCO report (2011) a blue economy is described as encompassing the "environmental, social, and economic pillars of sustainability". The UN (2013) definition of blue economy conceptualises oceans as development spaces where spatial planning integrates conservation, sustainable use, oil and mineral wealth extraction, bioprospecting, sustainable energy production and marine transport.

The concept of the blue economy attempts to overcome the traditional development model that views oceans as existing solely for human benefit, both a supply of resources and a dump for refuse, and an economic model that sees environmental degradation as a negative externality, a cost imposed on future generations. The blue economy concept incorporates ocean values and services into economic modelling and decision-making processes, with the ultimate goal of "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UN 2013). At the core of the blue economy concept is a determination to causally and practically connect socioeconomic development with long term environmental sustainability. To achieve this, the blue economy approach is founded upon the assessment and incorporation of the real value of the natural (blue) 'capital' into all aspects of economic activity (conceptualisation, planning, infrastructure development, trade, travel, renewable resource exploitation, energy production/consumption) (UN, 2013).

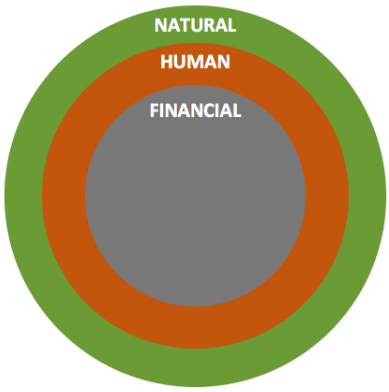
That said, there are some serious issues with the concept. The World Wildlife Fund (WWF) (2015, 2) warns there is some ambiguity regarding the 'blue economy',; while some view it as "the use of the sea and its resources for sustainable economic development" for others it "simply refers to any economic activity in the maritime sector, whether sustainable or not". The WWF (2015, 2) report goes on to provide its own definition of a 'blue' economy as one that must "respect ecosystem integrity", and asserts that "the only secure pathway to long-term prosperity is through the development of a circular economy". Like the 'green economy', the blue economy has been criticised as being grounded "in the logics of capitalist growth rather than in recognition of its contradictions and inequalities" (Silver et al. 2015, 138). The term needs to be defined and applied carefully in indigenous contexts or it risks either colonising indigenous approaches or being used to 'bluewash' unsustainable activities. While the concept has expanded on the dominant economic-only focus of western markets, it needs to be approached with care as it is still largely founded in the very values and priorities that have precipitated the current crisis in the world's oceans. Using the insight and utility of the Māori worldview and its 'operating principles' could help give this concept greater depth, integrity and applicability for both indigenous and non-indigenous actors alike.

## An indigenous blue economy

The blue economy is a useful start conceptually but it requires both a vital expansion, in that it must consider not just financial and natural 'capital' but also human 'capital' (here referring to what is often labelled as human, social and/or cultural capital in different text), and a critical reorientation, in that it must position all three of these in dynamic, nested exchange rather than the human and natural in service to the economic. The terms financial, natural and human capital are used here, despite reservations that they couch this discussion in econometric language, because they are widely understood and accepted and because as descriptors they provide significant conceptual reach, so long as their limitations are understood, and because they connect with the ecosystem approach (EA), ecosystem services (ES) and ecosystem-based management (EBM) concepts. Still it pays to remember, as Sullivan (2015) has written, that the "particular language of 'natural capital' and 'ecosystem services' affects how we understand and relate with the multiple selves of 'the natural environment'". From an indigenous perspective, these 'capitals' are seen more as nested, interacting spheres with natural capital encompassing all, human capital the next layer down as a subset of natural capital, and financial in the middle, as an abstraction of both natural and human capital. While the western view is that, at least implicitly, these capitals are separate, distinct and equivalent, Māori see the natural (with humanity as part of this) as far more important. Nevertheless, due to the broad acceptance of these concepts and the way in which they help integrate mātauranga Māori with EBM, they will be utilised in this report.

Western view of capitals:


Māori view of capitals:



Even the use of the term 'economy' is problematic from an indigenous perspective. In the contemporary Western world, the concept of 'economy' has seen exchange increasingly separated from the society and wider context within which it occurs. Polanyi (1944, 44) called this separation the 'Great Transformation' when "all social considerations, motivations, and values take a back seat to the empirically acquired primacy of the economy, which becomes autonomous from all (conscious) social control". For Māori, like other indigenous peoples, an economy is not only completely inseparable from their wider society, it should also be subservient to their society's values, beliefs and goals (Hēnare 2016; Sahlins 1972; Spiller et al. 2011). Hēnare (2016, 135) outlines how for Māori an economy needs to be embedded in and constrained by both the natural and social: "economics exists in the ecology, and not the other way around… [and] the economy is embedded in society and the values of that society inform the economy". He refers to this as the 'Economy of Mana', outlining how it is driven by "four wellbeings—spiritual, environmental, kinship, and economic" (Hēnare 2016, 135). These wellbeings align with the three forms of capital, with economic wellbeing premised on financial capital, environmental wellbeing on natural capital and spiritual and kinship wellbeing on social capital. It is from these wellbeings that the project gets its name: whai mana, whai rawa, whai oranga.

For it to be indigenous, then, the concept of the 'blue economy' needs to re-embed exchange and the flows of financial capital back into the wider human and natural contexts in which it occurs, and it must also account for flows of human and natural capital. To understand why these three forms of capital cannot be separated and why they need to be understood in dynamic exchange, the Māori worldview needs to be explicated, though first a quick outline of worldviews generally and the western worldview.

## Worldviews

A worldview is the most essential lens through which the world is viewed and understood. As Spradley and McCurdy (paraphrased in Ishii et al. 2015, 57) explain, it is "the way people characteristically look out on the universe". Palmer (1996, 114) defines it as "the fundamental cognitive orientation of a society, subgroup, or even an individual" encompassing "natural philosophy", "fundamental existential and normative postulates or themes", "values (often conflicting), emotions, and ethics". Neville (2009, 233) calls it a "useful vague notion" because "the felicity of the vague notion of worldview disappears at the point that precision is required about its meaning". Essentially, he is saying that the reductive nature of defining limits what the term means; in other words, it is more useful without overly explicit definition, though then he offers an 'enriched notion' that a "worldview is a cultured set of signs for orientating intentional behavior that has a spectra of (1) scale, (2) sophistication, (3) valuation, (4) identity, and (5) commitment" where orientation "means taking a stance towards things so that they have meaning within one's field of engagement", intention "means purposive but not necessarily conscious behavior" and cultured "means that it is learned" (234). As Durie et al. (2017, 6) explain, referencing Marsden, a worldview is "the central systemisation of conceptions of reality to which the members of that culture assent and from which stems their value system". For Mikaere (2011, 357-358), speaking specifically of Māori worldview, "It provides the lens through which we view our world. It determines the way in which we relate to one another and to all other facets of creation. It enables us to explain how we came to be here and where we are going. It forms the very core of our identity". It is a huge concept,

one that is both conscious and subconscious, one that is enculturated but also informs culture.

## The western worldview

Statements about the western worldview must be made with the caveat that the following is both simplified and generalised, there are really many western worldviews and there has been and remains change in these different viewpoints. That said, the western worldview is one that values the individual over the communal, emphasising the importance of progress, favouring rational and abstract thought and dividing and distinguishing between humanity and nature. The division between humanity and nature is a core quality of the western worldview and represents a significant binary between "subject and object, person and thing, mind and body, intentionality and instinct" (Willerslev 2007, 13). The western worldview has not only emphasised the difference between humanity and nature but has portrayed nature as being at service to and under the control of humanity. This enabled humans to think and act in ways they never did before, the ''global machine has required the iterative 'disembedding' of people from land, and of land from 'nature' in service to the exchange of 'fictitious commodities', namely land, money and labour'' (Sullivan 2010, 112). The origins of this worldview are many, with Ancient Greek philosophy, Christian religion and Enlightenment thought as the three most influential shapers (Bai 2009). The western worldview was the engine that drove colonisation, with the need for progress and the resources that fuelled it pushing the European empires into a race of expansion (Tau and Rout 2018). As will be shown, the western worldview is nearly antithetical to the Māori worldview.

## The Māori worldview

The Māori worldview can best be described as one that values balanced relationships between kin. At its very core it is premised on the primacy of whakapapa. As Te Rito (2007, 10) explains, whakapapa "exists as a genealogical narrative, a story told layer upon layer, ancestor upon ancestor up to the present day". Walker (quoted in Te Rito 2007, 10) sees whakapapa as a "sequence of myths, traditions, and tribal histories. They trace the genesis of human beings from the creation of the universe". Whakapapa is not limited to human relations, for Māori "everything is connected genealogically. From a Māori perspective all living things are related to each other as a family" (Reid and Rout 2016a, 430). Whakapapa places Māori in a context "with all other flora and fauna and natural resources" with "identifiable and established bonds" (Harmsworth and Awatere 2013, 274). Through inhabitation of Aotearoa, Māori "established whakapapa (genealogical) connections to the land" (Mika and O'Sullivan 2014, 653). Māori "trace their heritage, or whakapapa (genealogy), to rivers, mountains, or other landforms, thus defining themselves by the earth" (Hikuroa et al. 2010, 150). Salmon (2000, 1332) refers to this as 'kincentric ecology', explaining that "indigenous people view themselves as part of an extended ecological family that shares ancestry and origins. It is an awareness that life in any environment is viable only when humans view the life surrounding them as kin. The kin, or relatives, include all the natural elements of an ecosystem. Indigenous people are affected by and, in turn, affect the life around them".

From this core insight emerges the next key aspect of the Māori worldview, the importance of relationships. Māori are affected by and affect the life around them, they have a "relational view of the world that rests upon a profound commitment to developing reciprocal relationships of respect" (Spiller et al 2011, 155). Here the concept of mauri is important for understanding. Mauri is "the force that interpenetrates all things to bind and knit them together" (Hikuroa et al. 2011, 2). All beings, human or otherwise, "within the cosmic family, or whakapapa, are understood to be animated by what is termed mauri, which can be translated to mean 'life essence'" (Reid and Rout 2016a, 430). As Spiller et al. (2011, 158-159) outline:

> "Being bound together through mauri unifies all aspects of creation, and is not without differentiation, but unity appreciative of the intrinsic spiritual worth, and difference, of each… Māori continue to see themselves as agents in an evolving cosmological community, and use whakapapa [genealogies] to actively interpret relationships in order to bring the sacred to the centre of being'. This is a relational view of the world, where we are called into being through our relationships, through the interaction with kin, genealogies, and events. Rocks, rivers, birds, plants, mountains, animals and oceans, all possess a genealogy, and the divine genealogical order of whakapapa extends through aeons to a common genealogical origin".

Another important component of the Māori worldview is that it "acknowledges a natural order to the universe, a balance or equilibrium, and that when part of this system shifts, the entire system is put out of balance" (Harmsworth and Awatere 2013, 274). As Hēnare (2016, 132) notes, "in terms of the Māori worldview, people and the natural world are in a state of harmony, or balanced equilibrium towards each other". Restoring balance is an essential focus of the Māori worldview; if an action creates imbalance then this must be counteracted to return equilibrium. This drive for balance was essential in all relationships, between individuals, between whānau, between hapū, between iwi and with the wider natural world (Mead 2003).

In this relational view of the world where whakapapa binds everyone and everything together and the prime motivation is harmonious balance, distinctions between the social and the natural are redundant; humans are a part of nature, not apart from it. Central to this worldview is the "interrelationship of all living things as dependent on each other, and Māori seek to understand the total system and not just parts of it" (Harmsworth and Awatere 2013, 274). This means that any consideration of ensuring that the blue economy is sustainable must consider the human component as part of the natural system. Furthermore, viewing relationships as central means that positioning any one form of capital as the most important ignores the fundamental truth that all forms of capital are interrelated and so must be considered in dynamic interaction. For these reasons, an indigenous blue economy is conceptualised as one that manages the needs of planet, people and profit by understanding the interconnected reality of natural, social and financial capitals.

### Kaupapa and tikanga—operating principles and practices

Any worldview generates a set of operating principles, from which stem rules and methods for decision-making and action-taking that realise those principles. For many Māori these are

kaupapa and tikanga. Kaupapa means ground rules, first principles and general principles while tikanga means method, plan, resource, custom or more generally the "right way of doing things" (Marsden 2002, 66). As Marsden (2002, 660) explains, kaupapa and tikanga "are juxtaposed and interconnected in Māori thinking". Kaupapa is the foundational source of guidance with tikanga as the way in which these rules and principles are put into action, though unless the decision or action is contentious "there is no need to appeal to original kaupapa" (Marsden 2002, 66). While kaupapa are foundational, tikanga "have been handed down through many generations and accepted as a reliable and appropriate way of achieving and fulfilling certain objectives and goals" (Marsden 2002, 66). These "proven methods together with their accompanying protocols are integrated into the general cultural institutions of the society and incorporated into the cultural system of standards, values, attitudes and beliefs" (Marsden 2002, 66). There are a number of core kaupapa and tikanga that will help create a mana-based MME.

### Kaitiakitanga

Kaitiakitanga is usually translated as the 'exercise of guardianship' (Mead 2006) and can also mean "conservation, fostering, protecting, sheltering" (Marsden 2002, 67). Critically, it is "an active rather than passive relationship" (Harmsworth and Awatere 2013, 275). Marsden (2002) contrasts kaitiakitanga with the term 'stewardship', which implies the protection of someone else's property, which—as will be explained in the property rights section to follow—is a concept foreign to traditional Māori understandings. The imperative to act means that the ongoing application of knowledge-based, adaptive, collective-decision making tailored to local conditions is a fundamental characteristic of kaitiakitanga. As observations of natural fluctuations in climate and human impacts upon ecosystem are made and experienced, the knowledge base grows and practices are continuously adapted and tailored. Another critical underlying component of kaitiakitanga is that change is the only constant. Māori knowledge systems, and the practices that arise from them, both anticipate and accept change as part of the natural process. Kaitiakitanga is practised within a relational context, tailored to realise the aspirations of mana whenua and mana moana.

### Whānaungatanga

Furthermore, a core tikanga of Māori ontology is the concept of whānaungatanga. Embodied within this principle are ideals of building and maintaining relationships with immediate family, extended family, and the community. The concept of whānaungatanga can be likened to the view of acting as a citizen in a democracy; concern for the well-being of other members in society is of basic importance to society and the democracy. The way someone behaves in a market does not necessarily reflect how they would act as an individual (Awatere 2008).

### Manaakitanga

Manaakitanga is a foundational cultural practice. Hospitality and kindness extended toward neighbours and visitors establishes strong relationships. The ability of a host community to receive, provide, and welcome visitors can enhance or spoil their reputation and status. The ability to nurture and protect inhabitants is also an important element of manaakitanga (Barlow 1991; Mead 2003). The design of communities must consider aspects of manaakitanga. Communities must be places where people feel accepted and safe.

### Take-Utu-Ea

Managing resources is complex and at times there may be breaches (take) in tikanga. The principle of utu–ea (compensation–state of balance) (Mead 2003) attempts to equalise Māori values by offsetting one against the other. The balancing of manaakitanga (an ethic of generosity) and kaitiakitanga (an ethic of guardianship) with commercial drivers is an example of this. Utu–ea was a fundamental tikanga used to maintain balance in pre-contact Māori entrepreneurship (Waa & Love, 1997). Once a breach (take) was identified an appropriate utu (compensation) was agreed to be provided to the affected party. Successful negotiation and transfer of compensation resulted in a desired state of balance or ea (Mead, 2003). Although some Māori entrepreneurs claim they employ utu to balance tikanga and commercial imperatives, little research exists to support this (Mika, 2014).

### Tapu

Tapu is a key concept in Polynesian philosophy, denoting the intersection between human and the divine and was used to indicate states of restriction and/or prohibition (Benton et al., 2013). Tapu signifies the sacred, "requiring consideration" (Prytz-Johansen 2012), and is the source of Māori theological thought (Mead, 2003). Accordingly, tapu is the status befitting all elements of the natural world in recognition of the mauri that exists in them. Recognition of tapu involves an appreciation of and respect for another life force and other life in general (James 1993).

All things and people have tapu and the potential to exert influence over other things or people. The restrictions associated with tapu are extensions of the influence used to protect people, places or objects that are or may come into contact with tapu. These restrictions were dynamic and could change with time and environment as needed. (Mead, 2003).

### Noa

Noa is often perceived to be the opposite of tapu, but is better interpreted as the reciprocal of tapu. As mentioned above, all things and people have tapu, and noa reflects the status of people, places or objects free from the restrictions of elevated tapu, but still imbued with lower 'safe' levels of tapu. When kaimoana populations were locally diminished, harvesting restrictions on the access and use of those taonga such as rāhui were placed, indicating elevated tapu. Once the local populations had recovered, a state of noa had been achieved and the restrictions were lifted (Harmsworth 2002). Tapu and noa are complementary; one cannot exist without the other. Māori resource management endeavours to achieve a balance between people and the environment conceptualised as tapu and noa, through the recognition of ritenga such as rāhui (Te Wai-Puanga-Aqua-Rigel, 1993; Harmsworth 2002). Water such as waimāori was a common resource used to remove tapu from people and objects. Waimāori is used to remove tapu since it has become ordinary or normal water.

## Mātauranga Māori

Emerging from the Māori worldview and built through the ongoing application of these operating principles to new situations, mātauranga Māori can be most simply described as 'Māori knowledge' (Mead 2003). However, it is both knowledge and process: mātauranga Māori is a method for generating knowledge, and it is also all of the knowledge generated according to that method (Hikuroa 2017). Mātauranga includes both kaupapa and tikanga as

these emerge from and also shape mātauranga Māori. Moller et al. (2009, 252) emphasize "the way mātauranga embodies much more than practice of skill and rules for sustainability—rather, practice reinforces a whole suite of beliefs and values". These aspects all work in a dynamic flow rather than having a linear cause–effect relationship. Royal (2012, 33) explains that mātauranga Māori "is a modern term for a body of knowledge that was brought to these islands by Polynesian ancestors of present-day Māori. Here this body of knowledge grew according to life in Aotearoa and Te Wai Pounamu". While it is shaped by the Māori worldview and the operating principles, as these determine how Māori perceive reality to be including what is regarded as actual, probable, possible or impossible (**Marsden 2003**), mātauranga is also rigorous in ensuring it has a verisimilitude to observable reality.

Mātauranga Māori is the pursuit, accumulation and application of knowledge and understanding of Te Taiao, or the natural world, following a systematic methodology based on evidence, incorporating culture, values and world view (Hikuroa 2017). "Based on long-term association with the land and its resources", as King et al. (2007, 60) explain, "Māori have developed a detailed knowledge of local environmental features and processes. This environmental knowledge has been transmitted orally by successive generations as an integral part of a wider holistic understanding of the natural and spiritual world". Mātauranga Māori encapsulates the knowledge, comprehension or understanding of everything visible and invisible existing in the universe, including present-day, historic, local and traditional knowledge; systems of knowledge transfer and storage; and Māori goals, aspirations and issues (Landcare Research 1996). As Williams (2004, 90) explains, "Accurate recording of knowledge in oral societies requires sophisticated memory management techniques and, in the case of Māori, these were based on whakapapa". Mātauranga is underpinned by whakapapa. Critically, "Indigenous knowledge is bound to place, to the environment and deep knowledge of the environment, and is absolutely necessary for human survival" (Smith et al. 2016, 138). In this way it contrasts with western knowledge, which portrays itself as universal (Reid and Rout 2018). Comprising both tacit and codified knowledge, mātauranga includes a suite of techniques empirical in nature for investigating phenomena, acquiring new knowledge, and updating and integrating previous knowledge (Hikuroa 2017). Mātauranga involves the development of new or adapted techniques, this is part of its dynamism. Just like western scientific methods, mātauranga can be accurate and precise, as it incorporates critically verified knowledge, continually tested and updated through time; maramataka is an example *par excellence* (Hikuroa 2017). However, mātauranga also incorporates spiritual and emotional components as core components of knowledge and the resultant wisdom it produces, providing it with both 'objective' and 'subjective' views of reality (Reid and Rout 2018). Because of this duality, or holism, mātauranga is a powerful resource for understanding and balancing the three forms of capital.

### Viewing, understanding, knowing and relating to Tangaroa

For Māori "the sea is often considered to be the source and foundation of all life. Islands are fish drawn up from the water, and people evolved from amphibious beginnings. But Tangaroa, god of the sea, can also be destructive. Traditions tell of vengeance wrought by the sea upon those who fall out of favour" (Royal 2006). In the Māori creation story, Tangaroa is the son of Papatūānuku, the earth mother, and Ranginui, the sky father. Tangaroa "is at the root of this whakapapa [that goes back to creation] and must be considered in order to

understand the ocean" (Mita 2014/15, 7). As all beings whakapapa back to Papatūānuku and Ranginui, Māori are related to Tangaroa and consequently must act in a manner commensurate with the kaupapa in all their interactions with the ocean. Due to their links with the gods, and the strong reliance hapū had on fisheries as a food source, fisheries were considered taonga (Bess 2001).

Williams (2004, 80) references Korako's evidence at the Waitangi Tribunal, showing the mātauranga relating to fishing: "From what I was told there are three fishing kits/kete. The First kit/Te Kete Tai-uri (Rocks, rivers and lakes) set times with Rāhui imposed. The Second kit/Te Kete Tai-a-tea (Inshore fisheries) only at specific times. The Third kit/Te Kete Tai-nui (Deep Sea Fisheries) all year round. The Tohunga held either or all of the kits depending on their whakapapa, to and from the sources of their informant/mentor". Much of the mātauranga regarding Tangaroa was in oral form, in karakia (chants), mōteatea (laments), pepeha (quotations), pūrākau (stories), whakataukī/whakatauāki (proverbs) and waiata (songs), and within these various forms exists a breadth and depth of knowledge. King et al. (2007, 64) argue that stories of taniwha taking people were often "explanation to the causes of natural hazards, to record loss of life, and serve as warnings about the nature of particular places". Mita (2014/15, 17-18) explains how there are many karakia to Tangaroa that "were concerned with activities happening in and around the ocean" including those "those used for fishing and nets, to the winds and the oceans". For example, one karakia expresses the whakapapa of Tangaroa and Tawhirimātea and while this has a deeply spiritual purpose it can also be seen as being "designed to allow us as people the ability to practice everyday activities" by connecting the weather patterns with ocean conditions (Mita 2014/15, 18).

## Understanding the traditional Māori marine economy

The manner in which the traditional Māori marine economy is currently understood (i.e. the economy that existed prior to the effects of colonisation) has been distorted by the colonial narrative. To justify taking indigenous resources, settlers need to tell a story, this story is the colonial narrative. The colonial narrative is a diverse array of discourses found in everything from policies and newspapers to stories and songs and often uses western worldviews, conceptions, ideologies and ideas to categorise the indigenous culture and institutions. This narrative establishes a hierarchy, portraying western society as superior to indigenous peoples. Influenced by developmental progressivism, itself a manifestation of the western worldview, the narrative creates simple categories to differentiate societies according to their stage of 'evolution', from 'primitive' indigenous through to the 'modern' west (Bhabha, 1983; Bhabha, 1994). The colonial narrative obscures similarities and turns nuanced, complex, variegated, and dynamic cultures into simplistic, fixed, contrasting caricatures (Hogan, 2000). Indigenous people are portrayed as either 'noble savages' or 'primitive savages' – based on their resistance level or similarity to western society – with the 'noble' narrative justifying colonization as uplift, while the 'primitive' narrative builds on genocidal Social Darwinist principles (Bhabha 1994; Reid 2011; Wolfe 2006). Framing indigenous people as undeveloped, primitive, communal, mystical, and irrational, infers they unable to govern themselves or use their land (Bhabha 1994; Hogan 2000). In the late 17$^{th}$ century, English philosopher John Locke went as far as to claim that "persons who use the land most productively had the strongest moral claim to its ownership" (quoted in Brooking 1996, 144-

145) based on his influential theory of natural law which holds that 'property' originally comes about by the exertion of labour upon natural resources.

The narrative denigrates the indigenous way of life to such a degree that, depending on its intensity and duration and the wider impact of the colonial experience, it can denigrate indigenous understanding of their own culture. The indigenous culture is often overwhelmed by the dominant settler society and indigenous communities internalize the narrative's portrayal (Fanon 1967; Reid et al. 2017). Key to this are state assimilation policies, which seek to replace the traditional indigenous culture with a pseudo-settler culture, thus fulfilling the tutelage requirement of the narrative and creating a more biddable populace (Hill 2004; Reid et al. 2017). These assimilation policies are complemented by legal or extra-legal land grabs that either manipulate state law or simply ignore any law to alienate as much indigenous land as possible. The narrative cannot be understood separate from the larger settler project of enduring domination and dominion over the settled territory, which involves the creation of a sovereign state and the various political, legal and economic institutions that this requires (Morgenson 2011; Wolfe 2006).

The colonial narrative and its impacts remain evident in New Zealand, with the most relevant aspect here being that the Māori economy and property rights regime have been framed by the narrative as communal, collective or even communist in their constitution (Reid and Rout 2016b). The creation of this narrative can be seen in a set of quotes from the first half of the 18th Century. Before the creation of the settler state, descriptions of Māori political and economic structures were relatively objective as the aim was of gaining an understanding of who to negotiate with over land purchases. This is typified by MacDonnell's 1834 (5) journal, where he explains that "The government of New Zealand approaches nearest to the feudal system. Landed, and even personal, property is held by hereditary tenure, which it would be imprudent to disturb. Landed property may easily be purchased; the consent of the principal chief being first obtained". Contrast this with a statement by Sewell, a politician of the newly formed settler state explaining that the "object of the Native Lands Act [1865] was … the detribalization of the natives—to destroy if it were possible, the principle of communism which ran through the whole of their institution (quoted in Tau 2016, 677). In three short decades the nuanced understanding of Māori society and land ownership had been reduced to a simplified, oppositional statement and, while politicians are more inclined to make ideologically influenced statements, these examples are indicative of a common shift in conception over this period (Head 2006). By the time Elsdon Best laid down his canonical tract on Māori the narrative was set in stone, Best's "description of Māori kin groups was detailed, but his generalisations tended to entrench the colonial prejudice that Māori kinship was primitive in the specific sense that it was communal socially, communist in property, and violent and lawless between (and often within) kingroups" (Webster 1998, 5). The fact that the narrative comes into force with the Native Land Acts is no accident, its purpose was to portray Māori land use as 'inefficient' so as to justify land alienation. This narrative continues to cause issues today as it still impacts the way traditional Māori society is understood (Reid et al. 2017).

As a consequence of this narrative, land rights within traditional Māori society are often portrayed as 'communal' but this term obscures a more important reality: because of the

centrality of whakapapa and the fact that all groupings were kin-related the better term would be 'familial' (Reid and Rout 2016b). This framing has a further knock-on effect for the traditional Māori economy, which is then also understood as 'communal'. While true to a degree this obscures the freedom of action allowed to individuals, granted this occurred within a fabric of social obligations (Petrie 2006; Reid and Rout 2016b). Within Māori society, as Petrie (2006, 4) argues, "Personal autonomy gave individuals the freedom to pursue their own economic initiatives, but if incentives of security were present, the individual's gains in terms of skill or wealth were typically shared with the wider group". The familial bonds, economically speaking, served as a safety net.

While not a direct reaction to the narrative, due to the pressures of colonisation and particularly conflicts over land, Māori became increasingly consolidated and Māori social groupings are now generally understood as a top-down hierarchy, with iwi as the most powerful. However, in the pre-contact era hapū were the fundamental political and social grouping (Ballara 1998; Lian 1987). As Durie (referenced in Greensill 1997) notes, pre-contact Māori society had a reverse power hierarchy, where it moved from the smaller whānau group down through to hapū and then to iwi. Furthermore, Māori social groupings were incredibly fluid, they "mixed and divided and migrated and formed fresh relationships" (van Meijl 1995, 309-310). Over time, the pressures of assimilation from the settler state saw this understanding of Māori society become entrenched such that the status of the hapū has become increasingly relegated politically and legally. Iwi were largely a conceptual grouping of whānau and hapū with shared whakapapa, only becoming the most salient social grouping when there were external threats or when there was a situation that would best be dealt with at a pan-hapū level (Ballara 1998). Certainly, in the more populous areas and towards the end of the pre-colonial period the iwi was becoming a more powerful entity but it was only after colonisation that the iwi rose to its current dominant role (Ballara 1998). As will become apparent, all of these misconceptions play an important role in the historic, current and future MME.

### Traditional Māori property rights

Providing a succinct summary of Māori take whenua, or property rights, before contact is not easy because they were complex in their delineation and varied in their application both geographically and temporally (Tau 2016). In addition, it was in the coloniser's interest to portray them in a manner suitable to their purposes and since contact the nature of these pre-contact rights has become tainted by politically and ideologically-motivated framing (Reid and Rout 2016b). That said, an outline of both general property rights and those that apply to marine resources can be provided.

Māori had a robust property rights regime before contact, one defined and delineated by their social structure and emphasis on whakapapa (Reid and Rout 2016b). It is generally agreed that the system can be better described as one of resource user rights rather than ownership rights (Firth 1972). Rather than having rights to a single territory from which they could gather resources an individual, whānau, hapū and iwi had overlapping areas from which they could hunt, harvest, fish etc. (Firth 1972). As Paulin (2007, 41) writes, Māori had "a complex arrangement of nested rights and responsibilities relating to extended families, villages and tribes". Māori "tended to allocate property rights among individuals and families

on a functional rather than a geographical basis" (Banner 1999, 811). In other words, "a person would not own a zone of space; one would instead own the right to use a particular resource in a particular way. One might possess the right to trap birds in a certain tree, or the right to fish in a certain spot in the water, or the right to cultivate a certain plot of ground" (Banner, 1999, 811). Māori had what could "be thought of as an 'ecology' of user rights, as rights to different resources in an ecosystem (e.g. migrating birds, or eels) were divided up between users" (Reid and Rout 2016b, 89). The rights regime was so nuanced and layered that the same tree might be used by one whānau for fowling while another family may hold the right to gather berries from it (Banner 1999).

The term 'user rights' has a clinical tone, and this only begins to capture a part of how Māori related to the land and sea. The term 'ownership' does not fit within this wider relational conception, rather, as Metge (quoted in McCormack 2010, 21) explains, "'In the Māori view belonging is a two-way affair. They belong to the territory as much as it belongs to them". Land 'boundaries' also existed, indicating where the user rights of one hapū ended and another began. These tribal boundaries served as a form of defence from resource expropriation (Kawharu 1977). In contrast to Western property rights regimes, these boundaries were not rigid but rather that they were often flexible, with rights to gather or hunt in an area changing depending on a number of factors such as season, intermarriage, conquest and temporary usage agreements (Firth 1972).

This brings us to how the rights were conferred to users. While whakapapa can be understood as the core determination of user rights, there were four ways user rights could be proven or exchanged:

- Ahikāroa—occupation and use;
- Tāketuku—the payment of an acceptable fee for the temporary access to a resource, or resources; and
- Raupatu—the conquering of new territory and in turn gaining access to the resources of that territory.
- Whakamoe—marriage was another method by which rights to resources could be conferred, with children inheriting the rights of both parents (Firth 1972).

Resources were not 'owned' as such, but rather rights to different resource areas on the land and sea were held by individuals, whānau, hapū and iwi in a complex constellation of claims dependent upon occupation, agreement, conquest and marriage. However, while these four means of gaining, holding or losing a right were critical, it was the chiefs—generally of hapū—that had mana, or ultimate control, over resources (Firth 1972). The land and water that the chiefs expressed authority over was an extension of their personal mana (Head 2006). There was strict tikanga defining how commoners engaged with chiefs and these strict criteria extended to the land and waters as they were essentially an extension of the chief (Head 2006). Because of their mana, chiefs had the capacity to reassign or revoke rights when and where they thought necessary, with this ability a critical source, expression and amplification of their mana. Therefore, while individuals and whānau *used* the resources in a variety of different ways, the chief was the ultimate arbiter of *who got to use* the resources. As Tau (2016, 678) has argued, "there was no contradiction in the idea of a tribe holding its territory

as a collective while also having individual ownership of land and resources". As he notes, in some respects these social relations align with Western notions of property where the role of the hapū can be compared to the nation-state.

While the chief was the arbiter of user rights, the expression of this power was far from absolute (Firth 1972). Not only would this have varied both geographically and temporally, as different regions and eras either had different tikanga or interpreted and expressed tikanga in different ways but the tripartite nature of mana also meant it could have changed for individual chiefs over their rule. As Gallagher (2003) explains, "mana atua—God given power; mana tupuna—power handed down from one's ancestors; and mana tangata—authority derived from personal attribute". This triadic nature helps to explain "the dynamics of Māori status and leadership and the lines of accountability between leaders and their people" (Gallagher 2003). While the chiefs had ultimate control, their power was not absolute as their mana was dependent on how they were personally perceived by their hapū.

Adding an extra layer of complexity, Tau (2016, 682) explains that, with regard to Ngāi Tahu at least, "the elders, the grandfather or grandmother would have held been acknowledged as the pu-take—the owner, or the source—of rights," and in turn they were the ones who decided who within their whānau got to actually use each right. While chiefs "possessed the authority to represent the tribe in its interactions with other tribes and to distribute unallocated resource" at the whānau level the allocation was the responsibility of the family elder (Banner 1999, 55). The rights were organised across different social scales, from the hapū to the whānau to the individual, with each lower level requiring the permission from the higher level whilst the higher levels remained somewhat constrained by the lower levels for their ongoing authority. Māori society was hierarchical yet fluid, with a property right system primarily built upon social obligations as determined by mana and delineated by whakapapa (Head 2006).

Different resources had different values. Some, such as flax, were common resources with virtually no restrictions, while others, such as pounamu and tītī, were highly prized and consequently much litigated about and fought over. While the chief was akin to the judge in these litigations, each whānau had their own 'lawyer' who would advocate on their behalf when issues arose (Tau 2016). Tau (2016, 682) recounts Shortland's 1843 description of Ngāi Tahu practices, "[w]hen the right to a piece of land, or its boundaries, is disputed, these native lawyers are appealed to, and the case is investigated… The counsel for the plaintiff opens his case by naming in a loud voice some ancestor, A, of his party, whom he calls the root of the land… He then endeavors to prove that this root exercised some right of ownership undisputed by any one, and deduces, step by step, the descent of his clients from this ancestor or root". Here again we can see how the dynamics of Māori society impacted and reflected user rights, whānau were obliged to appeal to the hapū chief for rights adjudication using whakapapa.

### Traditional Māori rights to marine resources

Māori sense of belonging with the sea is that "'we are part of the sea'; that this conception of ownership is rooted in an essential reciprocity that exists among tribal members, land and seascape, ancestors and gods" (McCormack 2010, 35). In turn, "property relations with the

sea can be construed as having a tripartite structure: relations between the sea and resident group; between the resident group and the sea; and intra-group relations. (Māori state that the sea owns them (first relationship) just as they own the sea (second relationship.)" (McCormack 2010, 31). Māori fishing rights "specified who could fish and when, where and how they could do so" (Paulin 2007, 41). Just as with land-based user rights, the rights to various areas and species were incredibly specific. While falling into the top-down iwi-centric gaze of post-colonial analysis, Hersoug's (2003, 132) description is still insightful, explaining Māori had "an intricate system of nested rights… [where] extended families (*whānau*) controlled small streams, fishing grounds and shell beds in the immediate vicinity of their villages, sub-tribes (*hapū*) larger rivers, shellfish beds and certain fishing grounds while the tribe (*iwi*) incorporated the rights of its hapū and whānau".

The locus of the rights holder, be it individual, whānau, hapū or iwi, would likely have depended on the type of the fishery in question and, critically, the tools required to harvest it. The koko method of catching fish, for example, only required two people. By this technique, one person would hold the net across the channel, while another would walk up the stream guiding the fish into the net (Firth 1972, 222). The ownership of such small nets was likely to reside at the individual, or family level. In turn, the right probably was held at the individual/whānau level. Conversely, fishing with kilometre long seine nets might require several hundred members of a hapū. For example, 30 might be required to paddle large waka carrying nets; six might be required to pay out the net, while several hundred might be required to drag the net (Firth 1972, 227). Best (1924) lists over twenty different Māori net types, all used to catch different species in different ecologies, each implying a different user right and right holder. Ownership of such large waka and nets was likely to reside with the entire hapū and it seems likely that so did the right. Of course, as on land the rangatira still held mana, as Jackson et al. (2017, 115), in another Sustainable Seas project, write the "dimension of use, which is sometimes referred to as user rights under English law, meant that rangatira had rights to harvest fish, seabirds, travel over certain areas, and also restrict and exclude others from these practices". They go on to explain that "User-rights were afforded through descent and were applied in the context of tikanga" (Jackson et al. 2017, 118).

Māori had "a profound fisheries tradition [that] was recognized during the earliest European contacts" (Ruddle 1995, 114). While the "profusion of fish stocks in shallow coastal waters around prehistoric New Zealand made it unnecessary for Māori to venture beyond the immediate coastline to meet their daily dietary requirements" (Paulin 2007, 21), the Māori rights regime extended beyond the land and beyond the littoral, with Māori exercising rights to fisheries up to 40 kilometres off the coast (De Alessi, 2012; Ruddle 1995). The vast extent of Māori knowledge regarding various fishing grounds and seasons was evidenced during the Waitangi Tribunal hearings (Ruddle 1995). Much of this evidence was scientifically verified and traditional Māori "fishing grounds were found to locate precisely small areas of shallow water—the summits of seamounts—16-32 kilometres offshore and totally surrounded by deep waters. These shallows were then confirmed by fisheries scientists to be known locations of fish aggregations" (Ruddle 1995, 115). The mātauranga of fishing was closely related to rights; the understanding of where to fish is both a manifestation of rights and knowledge of the optimal locations and times to fish.

All of the "fishing grounds, banks and rocks were specially named" as a way of delineating both the whakapapa of rights holdership and the geographical configuration of the right (Meredith 2006). Furthermore, Māori "used prominent landmarks to identify these spots, taking their bearings by aligning one mountain or peninsula with another" for offshore fishing grounds, while for lakes, estuaries and other shoal waters they sometimes used rows of stakes and other markers as a way of delineating their territory (Meredith 2006). In other words, "[a]lthough boundary marks over small areas were sometimes used, natural features on land such as hills or rocks and specific place names based on both ancestry and myth more commonly demarcated fishing grounds" (De Alessi 2012, 393). The delineation of rights to fisheries were recalled using whakapapa, the centrality of genealogy provided the systems of user rights. Often the geographical features were "memorised in measured poetic form" (Wai 1988, 21) and "Land marks were sometimes named after the species found in the fishing grounds and season or month in which they could be fished" (Memon et al. 2003, 212) serving as a mnemonic means of remembering the fishery location for a species and what season to fish for them.

The relationship between land and sea rights was complex and remains debated. What is clear is that in East Polynesia, a radial pattern of seamless land and sea tenure extended out from the mountainous centre of the island to the reef (UNESCO 2014) and beyond. McCormack (2011b, 284) states that "Māori conceive of no distinction between the ownership of land and the ownership of sea in their tribal territories," and De Alessi (2012, 393) believes that "Control over the seas was an extension of Māori territorial control over land". In the 1990s battle between the Treaty Tribes Coalition and the Area One Consortium, the "coalition argued the principle, *mana whenua mana moana* (authority over the land is authority over the sea), presented as tikanga or traditional Māori custom…[where] traditional rights to an area of land necessarily implied traditional rights to the fisheries of any adjacent marine waters" (Webster 2002, 353-354). Conversely, "the consortium iwi asserted that although traditional inshore fisheries were often dominated by hapū or iwi who controlled the adjacent land, considerable evidence showed that deepwater rights had traditionally been shared between iwi without regard to coastlines" (Webster 2002, 354). Webster (2002) goes on to note how the modern 'iwi' came to dominate these debates, and it seems likely that the pre-contact rights were not only mostly vested at the hapū level but also encapsulated both sides' contentions at various times and places. In the more heavily populated areas, inland whānau and hapū likely secured access through some of the various mechanisms outlined above while those in the less populated areas would probably have had mana whenua mana moana by default.

### Traditional Māori systems of exchange

The traditional marine economy was also varied across time and place. For obvious reasons, the economy of the populous top of the North Island was different to that of the sparse South Island; likewise, the economy changed as different resources were either lost or gained (Firth 1972). That said, while the actual economies were different there were some underlying rules and practices that were fairly consistent. Most importantly, the traditional economy was largely based on reciprocal exchange (Firth 1972). Within this anthropological concept lies a great range of diversity. It is useful to think of reciprocal exchange along two spectrums: "One

spectrum delineates the main driver of the exchange, with utilitarian 'barter' at one end and 'gifting' as a form of social obligation at the other. The second spectrum is focused on the group dynamics, with the hierarchical and centralised 'redistribution' exchange within a group at one end and the flat inter-group 'disbursal' exchange at the other" (Rout et al. 2018, 863).

With regard to the first spectrum, generally speaking it runs from hokohoko (barter) to koha (gift without social obligations) through to takoha (a gift where all aspects are fully prescribed) (Williams 2004). "Hokohoko", as Williams (2004, 88) explains, "was usually an irregular event involving groups without rights to the desired resources. If regular trade became established it was ritualised". It would become takoha, with the development of long-term reciprocal obligations that bonded groups together—this form of "transaction is either the beginning of a new exchange relationship with others or it is part of a series begun long ago by a member of the whānau, hapū or iwi" (Mead 2006, 183). The most important part of this form of gifting was that "the return gift cannot be less in value than the initial gift" as this was the driving force of traditional economy, with mana as the 'currency' (Mead 2006, 184).

With regard to the second spectrum, at one end we see the large-scale exchanges such as the hākari, the feasts laid out by hapū or iwi which were a powerful expression of a chief's mana and were expected to be reciprocated at a later date. The hākari was "a form of food-wealth exchange in which a whole group enjoys a public acclaim in respect of its command over wealth only insofar as other groups witness this wealth. In a society where ownership of land is based on the tribal group, the ceremonial feast is a political event in two ways. Firstly, it is a means by which affirmation and reaffirmation of tribal territorial boundaries and resources are made… Secondly, it is a means by which individuals and groups make a powerful statement about their potential political strength" (Lian 1992, 394). These feasts tied groups together both internally and intertribally. As well as hākari chiefs would also be in charge of redistribution when group rights had been exercised. Meredith (2004) recounts "One expedition in 1855 by the Te Rarawa people, led by the chief Popota Te Waha, involved more than 1,000 individuals in 50 canoes, and lasted over two days. The fish caught from such communal efforts were divided by the leading chief among each whānau (family)". It should be noted that while the chief had greater access to material resources they did not have 'fixed wealth', rather their 'wealth' came from the amount of redistribution they were able to conduct—mana grew through how much you distributed rather than held on to (Lian 1992). At the other end of this spectrum was a 'flat' redistribution, known as kaihaukai in some regions, where groups exchanged items they had in surplus for items they did not have or were short of at that time (Williams 2004). As Mead (2006, 185) explains, "Some intertribal gift exchanges were formerly largely economic in purposes as when coastal dwellers exchanged food supplies with inland tribes. Here, items of food not necessarily available to inland tribes were given to them in exchange for food items that were a speciality in inland areas such as huahua (preserved birds). Seafood was always highly desired by inland dwelling people and one way of having access was by way of an exchange relationship".

As can be determined in the explanation of hākari, the exchanges were not only key to social obligations and resource distribution but they also helped assert a group's usage right. Gifting was "an overt demonstration of your wealth, and your ability and willingness to defend your

access to, and rights to the sustainable use of, those resources. It also says much about where you come from and what the naturally occurring resources of your area are. Further, to gift the resources of your area to a neighbour, and have that gift accepted without challenge is to have your dominion over that area and those resources confirmed" (Goodall quoted in Williams 2004, 88). This reveals how fundamentally the economy was embedded into Māori society, with property rights and exchange intrinsically connected.

### Traditional Māori sustainable resource management methods

At the core of traditional Māori sustainable resource management was kaitiakitanga, the most important principle that guides relationships with nature. Māori had a responsibility and obligation to care and protect the ocean as they whakapapa to Tangaroa. This was further underpinned by an "understanding that the mauri (life force) of the ocean is enhanced or decreased by the actions of people, and that all aspects of nature are linked" (Hepburn et al. 2010, 147). There were also a wide array of tikanga relating to when, where and how all fisheries could be used which governed virtually every interaction with the sea (Meredith 2006). As McCormack (2011a, 45) notes, there was "a holistic and articulate system of *tikanga* related to the environment", including tikanga mo kia moana, or 'laws and customs concerning the sea'. The dynamic, non-linear relationship between kaupapa and tikanga is apparent in the following, where McCormack (2011a, 45) goes on to explain that "Fundamental to this system, which combines practical and spiritual or religious ideas, is respect for and care of resources (*kaitiakitanga*)".

Kaitiakitanga was driven by the chief and empowered by tapu, as Bess (2001, 26) explains the "exercise of rangatiratanga (chieftainship) invoked prohibitions and enforcements such as tapu (spiritually based restrictions), thus having the power and influence of the gods. When tapu was placed on a "fishery there were restrictions and prohibitions to protect or control the fish stocks. It was understood that exploitative behaviour towards fisheries, such as breaching tapu, was a serious offence that could invoke the punishment of the gods. A less serious offence could result in offenders being subjected to muru, (plundering of offender's possessions by whānau or hapū)".

Metge (referenced in McCormack 2011a, 45) explains that the tikanga mo kia moana could be categorised "into those that variously emphasise (i) acknowledgement of the *mauri* 'life principle' and *kaitiaki* 'spiritual guardian' of the resources and their origin in god, (ii) avoidance of damage to the physical well-being of *mataitai* 'salt-water products' and their environment, (iii) avoidance of physical and spiritual pollution of both users and *mataitai*, (iv) co-operation in the conservation of group owned assets, (v) treating *mataitai* with the respect due to people, and vi) the encouragement of self-discipline and sharing". Taking the tikanga of mataika as one example, it required the first fish caught to be returned to the sea as well as any small fish (Gibson 2007). This has a spiritual element, thanking Tangaroa, and it also serves to conserve the resource.

Arguably the most important tikanga that ensures protection of marine resources was rāhui (Mead 2006). A rāhui "is a means of prohibiting a specific human activity from occurring or from continuing" (Mead 2006, 195). There are a number of different types of rāhui, with the conservation rāhui the most relevant here (McCormack 2011a; Mead 2006). The conservation

rāhui "was enforced to protect the fertility of terrestrial and marine resources such as berries, birds, fish, cultivated crops, fern root, flax or places where ochre was obtained" (McCormack 2011a, 44). As McCormack (2011a) notes, rāhui were initiated during the spawning season of types of seafood or when fishing stocks appeared to be depleted. The conservation rāhui was "intimately bound up with the concepts of kaitiakitanga 'resource guardianship' and tapu 'sacred, holy, forbidden', but McCormack (2011a, 43, 45) believes that it is "fundamentally a property act—a claim to ownership, an assertion of sovereignty… To impose a rāhui is to claim ownership of a particular resource, it is to exert a property right, an unequivocal mark of proprietorship". Rāhui, then, can also be understood as a manifestation of a chief's mana as the chief was usually in charge of declaring the rāhui while the removal of a rāhui, "often an occasion for celebration, could be used to enhance the prestige of the chief who initially imposed it" (McCormack 2011a, 45; Mead 2006). This reveals the connection between sustainability management and property rights. As one expert explained during the Wai 22 (Ministry of Justice: 1988, 17) case, "Food gathering activities in the Rangaunu were conducted under the control of various rangatira [chiefs]. They were responsible for ensuring that the food resources were not ravaged". A further connection to property rights can also be seen in the use of posts or markings on posts—such as ochre or fabric—as a means of communicating the rāhui (Mead 2006). In its noun form, rāhui refers to the pole "used to signify that access to a certain area is restricted" (McCormack 2011a, 43). Just as these posts were used to show who had mana over usage rights, they were also the means by which that usage was prohibited. So, when Barber (2004, 436) asks, "To what extent was the ocean perceived at any time of the Māori sequence as an expansive economic resource to be foraged 'efficiently' or a culturally defined seascape to be harvested safely and effectively only in accordance with ritual regulation?" he is employing a Western binary logic. For Māori, it was never either/or, it was always both.

### The Māori marine economy post-Te Tiriti

The traditional Māori economy was systematically undermined by colonisation. With the loss of hapū political power and control over resources following Te Tiriti, the cultural institutions of property rights, exchange, and management according to tikanga and mātauranga could no longer operate to the same extent. In their place settler institutions began to emerge and dominate, and Māori began a systematic resistance to this imposition. Most investigation and discussion related to this colonization process focuses on Māori land appropriation. This is primarily because rights to marine resources were never purchased from Māori by the Crown and the management and ownership of these resources were only ever lightly regulated until the 1980s. However, over time, light regulation led to a 'free for all' as fishers (dominated by settlers) overfished New Zealand's marine areas. In response, the Crown began to introduce strong regulation concerning the ownership and management of marine resources which failed to acknowledge Māori ownership, leading to political resistance. This was followed by Crown and iwi negotiations to resolve the conflict, leading to the development new iwi-centric models of owning and managing marine resources. This process is outlined step-by-step in the discussion below.

### The MME after Te Tiriti

While in the early post-Te Tiriti years Māori were selling their catch to settlers, by the end of the 19th century Māori had been supplanted by settler fishing operations (De Alessi 2012).

This mirrored the changes that had occurred in agriculture, where the 'golden age' of the Māori agricultural economy in the middle of the 19th century had collapsed and Māori had retreated to their kāinga, and horizontal Māori-settler economic interactions had decreased significantly (Reid et al. 2017). However, unlike on land, "communal access rights to the sea were not parcelled into private property, bought or swindled out of existence; they were simply removed without discussion, as part of the Crown's assumption of sovereignty" (De Alessi 2012, 397). Under settler state law, inshore fisheries were a public right; they were a 'commons', a 'free for all' in both the literal and figurative sense. This is in direct contrast to the traditional Māori economy where property rights had been clearly defined. Although inshore fisheries were a 'commons' under Crown law, Māori still had some access rights enshrined in a number of pieces of legislation that held until 1983, even as the legal force of Te Tiriti was suppressed (De Alessi 2012; Webster 2002). However, Māori ability to compete with the increasing industrialisation of the settler and international fishing industry was limited. In the 1940s the New Zealand government put a few regulations in place but these regulations, including the licensing of fishing boats, was discontinued in New Zealand in 1963. This opened up the fishery to new participants. By the 1970s the fishing stocks had been severely depleted in a classic 'tragedy of the commons' case (De Alessi 2012). During the 20th century the MME had become a largely subsistence or supplemental component of Māori life. Māori were exercising their right to fish unchallenged by the settler state yet they were also unchallengingly to the settler fishing economy, with many Māori accessing fish through their participation as deckhands on Pākehā owned boats (De Alessi 2012; Bodwitch 2017b). In 1986, however, overnight, the New Zealand government excluded huge numbers of Māori fishers from New Zealand's waters, with the establishment of the world's first comprehensive privatised fishery management system.

## Regulating Commercial Fisheries: QMS/ITQ, ACE and LFR

### *Quota Management System/Individual Transferable Quota (QMS/ITQ)*

In 1977 New Zealand declared an Exclusive Economic Zone (EEZ) around its shores, after the United Nation's Convention on the Law of the Sea, which authorized the government to regulate and tax economic activity in the area 200 nautical miles from shore. In the ensuing years, during a period in which overfishing was not yet a major concern, the New Zealand government invested in the development of its domestic fishing fleet. This investment gave rise to overcapitalization of the fishing fleet, or the problem of 'too many boats and not enough fish' (Sissenwine and Mace 1992). The "EEZ enclosure was really about *who* would extract valuable resources such as oil and minerals, as well as fisheries, rather than protecting them from depletion" (De Alessi 2012, 398).

As a response to the dramatic drop in a number of fish stocks, the New Zealand government established the Quota Management System (QMS) and ITQ system in 1983 (De Alessi 2012; Webster 2002). The QM system was modelled after a theoretical conception designed by an international group of fishery biologists and economists who were focused on how to address the problem of overfishing without reducing economic activity surrounding fishing (Bodwitch 2017a). The ITQ "redistributed commercial quotas with the goal of professionalizing the industry, and rationalized the regime in terms of conservation policy" (Webster 2002, 344).

In other words, while it was cloaked in the language of conservation it was really about privatising a public right by divvying up the EEZ (McCormack 2010). As Memon and Kirk (2011, 110) explain, the "ITQs have granted these fishers a property right that can be bought, sold or rented on an open market". Likewise van Meijl (2006, 175) notes the "fishing quota system… was controversial since it transformed traditional common use-rights in fish into privately owned, divisible commodities". The QMS fundamentally altered the conditions necessary to obtain a livelihood from fishing. The goal of the system was to mitigate overfishing by commercial fishers, without inhibiting economic activity surrounding fishing. In this it has succeeded. Since its inception, the QMS has been lauded nationally and internationally as the exemplar of fisheries management systems that balance sustainability and profit, though as will be examined while the system may be more 'sustainable' than the rest of the world – generally speaking not a high bar – it has had and continues to have a number of negative 'economic' consequences for Māori both because of its design and its implementation – though it also had an incidentally positive economic consequence for Māori that will be examined (McCormack 2010,2018; Torkington 2016).

The QMS aimed to reduce the number of boats on the water by making ownership of a privatised commercial fishery access right, or "quota" (and later, a derivative thereof, referred to as Annual Catch Entitlement), a requirement for anyone wishing to sell fish caught in New Zealand waters (Bodwitch 2017a). Quota corresponds to a percentage of the government-determined annual total allowable catch and can be bought, leased, and sold (Memon and Kirk 2011). The idea behind New Zealand's QMS is that the privatized nature of the quota right will incentivise fishers fishing in less efficient operations, or those defined as making less income, to sell their way out of the fishery (Sissenwine and Mace 1992). The years following implementation of the QMS saw many of these 'less efficient' operators leave the industry as the sector saw increasing consolidation (Torkington 2016). Fishers exiting the fishery almost always sell their quota to one of a handful of vertically-integrated fisher-processor operations, or to an outside investor (Bodwitch 2017a). Under New Zealand's QMS, non-fishers are eligible to be quota owners, increasing competition for quota purchases (Bodwitch 2017a). The Crown also established minimum quota holding amounts for each fishery, which further reduced the number of fishers in New Zealand's waters, by increasing the amount of capital one needs to obtain sufficient quota to fish commercially (Boyd and Dewees 1992). Māori fishers can rarely compete with highly capitalised operations for quota purchases (Bodwitch 2017a). Moreover, fishers exiting the fishery are rarely Māori, due to the government's initial quota allocation requirements.

Under New Zealand's ITQ system, quota was only allocated to those fishers with reported catches of up to 80% of their income for the three years preceding the implementation of the system (Boyd and Dewees 1992). Additionally, the government set minimum quota holding amounts for each fishery to reduce the number of fishers in New Zealand's waters (Boyd and Dewees 1992). Fishers who reported lower catches were excluded, including many Māori (Bess and Harte 2000; Memon and Cullen 1992; Pinkerton and Edwards 2009). Many Māori fishers did not report catches in part to reject government regulation their marine rohe (Bess and Harte 2000; Memon and Cullen 1992). Many were unaware of the impending ITQ system implementation and the benefits of reporting. Underlying all of this legislative exclusion was the "commonly held belief that the Maori fishing rights protected by both the Treaty and by

subsequent legislation only applied to subsistence fishing, not commercial fishing" (De Alessi 2012, 398). The power of the narrative is clear, Māori fishing was not seen as 'economic'.

Small-scale fisher exclusion increased after allocation, when vertically-integrated processors offered fishers cash for quota (Boyd and Dewees 1992; Yandle and Dewees 2008). The mostly Pakeha processors who had invested in physical infrastructure contingent on fish catch, now wanted to ensure their access to quota and fish. In situations where fishers might have wanted to grow their operation by buying more quota, processors had an advantage: at the time of quota allocation, banks would not loan against quota or boats, but they would loan against physical infrastructure on land, including that owned by processors (Levine 2001). Māori fishers had already suffered dispossession of their right to own land by colonial-era regulations and were largely fishing in small-scale operations. Due to a lack of capital, Māori were especially unable to access cash to buy quota. The rules regarding quota allocation winnowed out many smaller operators, with Māori making up 85% of the 1800 smaller fishers excluded (Webster 2002). Generally, the QMS has seen a change from local fishers operating in their own regions to large scale operators who work anywhere they have quota, with a resultant loss of local employment in fisheries (Healy 2006). This has had a disproportionate impact on Māori (Healy 2006).

While largely excluded from the quota system when it was first put in place, "the designation of fishing quota as a right to harvest fish also created an opportunity for Maori to claim that the QMS was a formal abrogation of their Treaty rights" (De Alessi 2012, 399). While the QMS had negative impacts on individual Māori fishers, this change in property rights regime provided an opportunity for broader Māori restitution. The claim was made in the context of wider Māori activism and political organisation regarding Te Tiriti breaches: the timing for redress was right. The Muriwhenua tribes brought a claim to the Waitangi Tribunal just as the QMS was about to come into effect. Presented with "a compelling array of oral evidence" (Webster 2002, 346) that revealed the wealth of mātauranga relating to fishing, the Tribunal found that the QMS was "in fundamental conflict with the Treaty's principles and terms and because it apportioned to non-Maori the full, exclusive and undisturbed possession of the property in fishing that to Maori was guaranteed" (quoted in De Alessi 2012, 401). Then a year after the QMS was implemented the New Zealand Māori Council brought Maori concerns to the courts (Bess and Harte 2000). The claimants argued, successfully, that the government's presumed fishery ownership, a claim that was necessary to allocate ITQ rights, violated Māori fishing rights, as protected in aboriginal title and by the nation's founding document, the 1840 Treaty of Waitangi (Boast 1999). Consequently, "[i]n September 1987 the Māori Council obtained a ruling from the Waitangi Tribunal with which the High Court concurred, issuing an interim injunction against the government's plan to bring further species in the Far North under the quota management system" (Webster 2002, 346-347). A month later, when further claims that drastically expanded the scope of potential redress by not only including offshore fisheries but also the loss of potential fishery income caused by post Te Tiriti injustices were made, the injunction was extended to cover all fisheries in New Zealand (De Alessi 2012; Webster 2002). This marked a significant victory for Māori, who had increasingly been excluded from fisheries in the preceding decades, and was the result of hard work and dedication by many who fought to have this injustice righted (Bargh 2016). The overwhelming success of this long campaign for justice needs to be acknowledged. The issues

faced during the following negotiations were – and remain – incredibly complex and in some cases intractable, and there are not always easy solutions or right answers to problems such as these. Any following criticisms of the process or results is intended as a platform for seeking to understand how the current system can be improved rather than an attack on any of the individuals and groups involved.

In an attempt to "reconcile the quota system with the Treaty, the Maori Fisheries Act of 1989 began the process of allocating quota to Maori" (De Alessi 2012, 401). This was highly contentious and saw the aforementioned consortium and coalition form to fight over how quotas were allocated. The stakes were high and the issues of allocation extremely difficult. In 1992 the government granted Māori 10% of the quota ownership rights for the 26 marine species already in the ITQ system, 20% for all species added in the future, and 50% shares in the nation's largest fishing company (Boast 1999).The government allocated the quota shares to a trust, and in 2004, the trust divided the quota asset between 57 Māori iwi (Webster 2002). As Webster (2002, 349-350) notes, it is "significant that under the 1992 act these assets were nothing like the fish resource itself, but were already locked into the recently restructured, free-market quota management system and corporate shares—a very different kettle of fish from the independent resource rights that had been misappropriated from the Māori. The act also extinguished virtually all treaty rights to the fisheries, leaving only the token customary rights". The specifics of commercial and customary rights will be covered in a later section, though as Webster's quote suggests the latter do not come close to encompassing what might have been considered the traditional 'customary' right. While Māori gained a large share of the commercial right, the outcome has not been as widely beneficial as might be hoped. For the government, "fragmentation of Maori fishery rights was imperative for effective implementation of the quota management system" (Memon et al. 2003, 207).

The goals of the 1992 Fisheries Settlement were two-fold. The first was to involve Māori in the business of fishing (Bess 2001; Boast 1999; Webster 2002). The second was to do this without changing the design of the ITQ system. While the second goal was achieved – the Māori settlement did not change the structure of the ITQ system – the first was not. As of 2016, Māori own almost 50% of the nation's fishing quota (McCormack 2018). But few Māori are fishing, processing, or selling fish caught by Māori quota. Instead, quota managers lease quota to the highest bidding fishing operations, and use the lease profits to purchase more quota for iwi (De Alessi 2012). Rarely are the highest bidding companies Māori-owned. McCormack (2018, 15) outlines five reasons for the lack of iwi actively fishing their quota:

"First, many iwi do not have the technology or capital to harvest, in particular, deep-sea fish. Second, the quota held for a particular species is often too small to sustain a local fishing venture and is leased to companies that then aggregate it. Third, iwi-owned quota packages often contain a disproportionate amount of high-volume species on the lower end of the commercially valuable spectrum; economic viability, thus, requires leasing. Fourth, while some Māori settlement quota is owned as part of a more diversified set of asset holdings, for many iwi fishing quota is their only significant asset. Thus reducing risks and reaping the highest profit from the least amount of capital input may be the only rational economic

choice. Finally, more wealth can be generated from trading activities than chasing fish in the sea".

Consequently, a handful of vertically integrated processor companies, which control access to and wealth distribution from the majority of New Zealand fisheries, also fish, process, and sell most fish caught by Māori-owned quota (De Alessi 2012; Yandle and Dewees 2008). Iwi manage quota for capital gain, rather than a fish access right, in order to protect the value of the settlement asset for future generations. Iwi also use this profit-centred quota management strategy to acquire revenue for social and cultural development initiatives, such as language learning. Iwi fishers' are excluded, when iwi prioritise capital gain in managing quota, because Māori fishers do not have capital to out-bid vertically integrated processors. In attempt to amend fisher exclusion, over the last five years, iwi quota managers also implemented alternative quota management strategies that effectively subsidise fishers' access to quota.

Furthermore, while the 1986 Tribunal finding "restored Māori fishing rights not only as treaty rights but also as rights under aboriginal title and thus British common law… by 1992 there were clearly systematic legislative efforts to bring these new Māori opportunities in customary as well as commercial fisheries back within the confines of the formal market economy and away from any legal pluralism that might compromise it" (Webster 2002, 344-345). That is to say that while in theory Māori had regained their rights, in practice and application the settler state remained determined to maintain control of the fishing economy. While the "1992 legislation reacted primarily to the Māori effort to reclaim a share of the commercial fisheries… an additional intent of the legislation was to force all but token remnants of the customary fisheries into the formal free-market regime" (Webster 2002, 345). As Webster (2002) notes, this was made apparent during the Hikuwai case, where the Crown determined that any seafood given to others as koha was a 'pecuniary gain'. With a gift defined as a financial transaction, one of the core aspects of what might be considered the 'customary' right of fishing was denied by the settler legislation. This is further entrenched in the *Fisheries (Kaimoana Customary Fishing) Regulations 1998*, where koha is defined as "neither commercial in any way nor for pecuniary gain or trade…, a definition that excludes 'barter'" (McCormack 2010, 30). Māori economic principles and practices are defined by the settler state in an oppositional manner that limits their practical use in contemporary forms, instead relegating them to a non-commercial, un-economic Other category.

Even the quota Māori received is different from the other quota, designated as 'Settlement Quota' or 'SET' under the 1996 Fisheries Act it has different legal restrictions to the normal quota. One of the major differences is that unlike other quota, settlement quota cannot be sold on the open market but rather is only able to be traded to other iwi. It is restricted both in who can trade it and in the means of exchange, trade rather than cash purchase (ICP 2018). In fact, trading SET is "a really complicated legal process" and to date "no Settlement Quota has ever been sold in the 12 years since first allocated" (ICP 2018). Thus, Māori received quota that was often fragmented yet were not able to sell or buy more to either offload useless quota or access enough to make it financially viable. Furthermore as Day and Emmanuel (2010, 62) note, because iwi are only able to trade the SET amongst themselves it is not worth

as much, they calculate that "up to 30% of the settlement value is lost if mandated iwi are restricted to sell among themselves".

*The Māori quota trust*

Ironically, the transfer of quota shares to settle Māori fishery grievances increased processors' control in several ways. First, the allocation of quota to a trust created a new player in the fishing industry with quota but no boats. As an entity that itself does not fish, the trust managed the quota as an investment asset and made a pool of quota available for processors with surplus capital. Processors could lease (or rent) this quota to avoid limitations on industry consolidation. Second, this also gave an indication to banks and investors that the government had a vested interest in maintaining the long-term value of this property right, or else risk a re-negotiation of the fisheries settlement. Banks therefore had more confidence in the permanent value of ITQs. Third, customary catches were designated as ineligible for sale. Māori fishers using customary permits, and Māori and non-Māori who fish recreationally, were thus unable to obtain capital from fish sales necessary to fund their boat or gear, let alone quota purchases or leases. Small-scale fishers without an extra source of capital rarely, if ever, bid on quota purchases or leases. The trust's management of Māori-owned quota as an investment asset furthered processor control through accumulation by dispossession: processors with quota obtained capital to fund additional quota purchases by paying hired fishers a low percentage of the total sale of the fish. This dynamic of fisher dispossession from processor control of fishery access rights has been labelled "sharecropping" (Bodwitch 2017a).

According to the terms of the settlement, Māori were to decide amongst themselves how to divide up the asset. The potential to obtain fishing rights, however, prompted numerous negotiations among Māori groups to determine the nature of Māori governing structures in contemporary times, as well as governing groups' relationships to fishing (De Alessi 2012; Webster 2002). The negotiators designed the settlement to benefit all 'Māori' but in practice all Māori are legally represented by mandated iwi representatives and corporately-structured Mandated Iwi Organizations (MIO) (De Alessi 2012; Webster 2002). Furthermore, Māori were highly constrained in how they would structure themselves by the Crown. In 1989 the government introduced the Runanga Iwi Bill, which sought to devolve government services to iwi (Hill 2009). This Act "created a subnational structure of governance that linked the state to tribal organisations… [and as] a result tribal organisations regained recognition and status at a time when Maori society was becoming more and more pan-tribal following the urbanisation of Maori in the twentieth century" (van Meijl 2006, 178). While the Act was repealed in 1990 the emphasis on the strong centralised structure of modern iwi still has influence (van Meijl 2006).

The requirements eventually outlined for MIO were that an iwi "can choose whatever legal structure they wish provided it meets the minimum standard set by Te Ohu Kai Moana" (Webster 2002, 352). However, as Webster (2002, 352) notes, while this may appear to give a degree of latitude "for traditional Maori ways, the crucial words are 'legal structure' and 'minimum standards'". In reality, for iwi to manage the fisheries asset package requires they invest the assets, monitor their performance, extract a dividend and make reinvestment decisions, meaning they must meet "certain 'structural' criteria of capitalist modernity"

(Webster 2002, 352). The "plan requires iwi to have approved mandates and accountability standards" (Bourassa and Strong 2000, 165). MIO "blend a corporate structure with a charitable trust fund complex" (McCormack 2018, 282). These "capitalist management structures were imposed on Maori societies that had not heretofore been geared to commercial exploitation of fisheries, let alone asset management and corporate governance" (De Alessi 2012, 391). Thus, iwi were not only a 'simulacrum of the past' but they were also forced to adopt Western neoliberal structures. As Hersough (2003, 141) states, "Maori fisheries development, both commercially and culturally, was seen as channelled through and connected to the tribal structures".

As contentious as the constitution of the organisations that would hold the quota for 'all Māori' was the way the quota would be divided up amongst these organisations. Following several controversial court cases and a multi-year series of meetings with fishers around the country, the Māori Fisheries Act 2004 divided Māori-owned quota between iwi based on population and coastline, and kept a portion in the trust's hands to manage as an investment asset for unaffiliated Māori. The decision to allocate quota to iwi based on population prompted a wave of tribal enrolment initiatives, as iwi sought to grow their population numbers so they could get more quota (De Alessi 2012; Webster 2002). In sum, the power of the iwi over fisheries was consolidated by the Settlement as the right was essentially vested in these postcolonial corporate entities.

The dividing up of Māori-owned quota posed challenges for smaller iwi and those with limited coastlines. Both fishers and managers view the smaller quota packages held by these groups as 'uneconomical'. Quota shares are uneconomical when the fish the quota share corresponds to obtains a market price that does not cover fishing costs. Larger iwi, with fewer 'uneconomical' shares, are under pressure to mitigate fisher exclusion from ITQ system implementation, while simultaneously maintaining the broader and long-term benefits of the quota asset for non-fishers and future generations. In doing so, however, iwi quota managers must work against the effects of two policies in New Zealand's ITQ system that – unintentionally – maintain processor control: the creation of Annual Catch Entitlement and the Licensed Fisher Receiver certification regulations. The government designed these policies to promote ITQ system monitoring. However, they also limit the extent to which iwi quota re-allocation initiatives promote small-scale fishers' economic development.

*The Annual Catch Entitlements (ACE)*

The government's creation of Annual Catch Entitlement (ACE), established by the 1996 Fisheries Act, implemented in 2001, separated the quota ownership right from the fish access right and furthered processor control of fish access rights. The government's aim in creating this legislation was to incentivise fishers to report their catches by promoting within-season trading of fish access rights (Stewart and Leaver 2015). Accurate fisher catch returns are integral to ITQ system functioning, as fishers' accounts of their catches (per unit of effort for each fishing trip), are the main source of data that the government uses to determine the TACC for most fisheries [29]. Under the ACE regulations, quota ownership corresponds to a right to a percentage of the 100 million registered quota shares for each fishery each year. ACE is the specific tonnage a quota right corresponds to. With ACE, fishers no longer have to ensure their quota package at the start of the year matches the fish they will catch. This is

especially important for multispecies fisheries where fishers use unspecified fishing gear and cannot easily target specific species. At the end of each fishing year, a fisher's ACE package must match the fish they (reported as) caught, or the fisher will be charged a fine, called a "deemed value." The government aims to set deemed value fines high enough to discourage fishers without ACE from intentionally targeting the species and low enough to encourage fishers who unintentionally catch it to report it (Stewart and Callagher 2011).

The ACE legislation increased processor control because ACE does not count against quota consolidation limits (Stewart and Callagher 2011). The possibility for ACE to override consolidation limits, arguably, promotes investment in more efficient fishing and processing infrastructure that can increase New Zealand fishers' competitive edge against international fishing companies, especially those fishing offshore and in the deep-sea. However, the opportunity for larger operations to raise capital by decreasing competition excludes small-scale fishers and new fishers, especially those seeking ACE to fish inshore, higher-value species, such as abalone (*Haliotis iris)*, rock lobster (*Jasus edwardsii*), and oyster (*Tiostrea chilensis*). By making it possible for one entity, usually a vertically integrated processor, to own major portions of the ACE for a particular fishery (as is the case, for example, in the abalone fishery), ACE regulations exclude new fishers. Fisher exclusion has adverse economic effects, as reduced domestic competition reduces the competitive push to invest in or develop value-added fish commodities (Bodwitch 2017a).

The ACE regulations also furthered processor control and small-scale fisher exclusion by making it possible for quota owners to register quota as a security for raising capital (Bodwitch 2017a; Stewart and Callagher 2011). This possibility makes it lucrative for those no longer fishing and for non-fishers to buy quota as an investment asset. It also makes it possible for those who accumulated quota in the early quota years to increase their competitive edge in accumulating more quota, by using their quota to raise capital for investments. The possibility to use quota to raise capital addresses a reason small-scale fishers were excluded from accumulating quota in the early quota years: due to their own lack of capital as compared to processors. This, however, came too late, after quota prices for inshore species increased substantially due to processor control.

*Licensed Fish Receivers (LFR)*

Also in 1996, the government introduced legislation to regulate fish sale and trade that furthered processor control and small-scale fisher exclusion in New Zealand's ITQ system. Under New Zealand's Fisheries Act 1996, commercial fishers are not allowed to sell the fish they catch to anyone other than a Licensed Fish Receiver (LFR). To become a LFR, an individual or corporation must obtain and maintain fish processing operations that are in compliance with food safety code requirements. Would-be processors must construct processing facilities that meet building code certification standards for commercial food preparation facilities, they must own land to build the facility on, and they must pay certified engineers and builders to design and construct the facility.

LFR regulations increase the government's ability to monitor fish sales, to ensure that all fish sold in New Zealand is in compliance with the quota system, as well as national and international food safety standards. These regulations also increase the amount of capital one

must obtain to access fish markets. Anyone wishing to sell New Zealand fish must own land to develop a processing facility, capital to pay certified engineers and builders to construct the facility according to code, and access large amounts of quota or high-end markets to cover processing costs.

Processor certification requirements that increase the amount of capital needed to access markets for fish are especially challenging for Māori to meet. Colonial-era regulations exacerbate restricted access to capital for Māori. In particular, these policies include government land-titling schemes for Māori-owned land in the late 1800s that allocated titles to groups of Māori individuals and their descendants, as opposed to individuals. The government designed group-titling to prevent dispossession of Māori-owned land, but it led to a situation where Māori land blocks have upwards of 300 owners (Allison et al. 2012; McCormack 2015). Multiple-ownership poses problems for Māori fishers who are attempting to build processing facilities to sell their own fish. Land with multiple owners cannot be used to raise significant capital, as profits from investment and sale are split between owners. Contemporary effects of restricted access to capital historically present challenges for iwi quota managers, as iwi negotiate trade-offs between subsidizing individual fishers' entry into fishing and processing sectors, or leasing quota as an investment asset for the long-term benefit the iwi as a whole.

## The current Māori marine economy

The current MME is conducted within what can only be described as an incredibly complex legislative framework with a diverse array of actors. While Māori have made significant gains as McCormack (2018, 273-274) notes, there remains "a major paradox in this settlement. Although Māori own about 33 per cent of the quota in an industry internationally hailed as successful and three of the five companies in New Zealand (which supply 80 per cent of the catch) are Māori-owned, an ongoing sense of alienation exists from what is perceived of as an ancestral resource". Similarly, in its 2017 review TOKM outlines how "[m]ost iwi are passive quota owners and not deeply engaged in the active fishing industry or well represented in the key decision-making structures within the wider fishing sector. This places most iwi at a distance from the actual business of fishing and fisheries management".[1] The report also warns "the collective Māori focus on maintenance of rights [has] diminished from that of previous years".[2] It goes on to explain that:

> "From a position of strength in 1992, Māori now face a situation where Deed of Settlement rights are under increasing threat of unilateral extinguishment by Government emboldened by Māori complacency regarding fisheries rights protection. Government confidence has also been emboldened by increasing diversity of iwi views on the relative importance of commercial fisheries compared to iwi environmental perspectives and individual political positioning. From a position of general unity in 1992 regarding Treaty rights, iwi are now more diverse in their views regarding how fisheries rights should be balanced and exercised. This lack of unity creates risk when

[1] https://teohu.maori.nz/wp-content/uploads/2018/12/Maori-Fisheries-Strategy-27-February-2017.pdf
[2] https://teohu.maori.nz/wp-content/uploads/2018/12/Maori-Fisheries-Strategy-27-February-2017.pdf

> dealing with a Treaty Partner who is highly selective in its approach to dealing with Māori issues".[3]

TOKM characterises the period following the 2004 Act as one of fragmentation and weakness. There is, then, much to be concerned about. This section will look at the customary and commercial rights, focusing on governance, economics, regulatory environment and the constraints and opportunities in each to get to the core of this ongoing alienation. McCormack (2010, 35) provides a useful explanation of the customary and commercial, their foundation and connections and it is useful to quote her at length before exploring each individually:

> "In Māori fisheries, ITQs and the bundle of rights encoded in customary regulations evidently represent opposite poles in the private versus communal property spectrum. Legally, they serve different ends: to underwrite a commercial enterprise and to maintain a traditional sociocultural system. However, a restricted neo-liberal model of property is arguably present in the constitution of both systems. Ideologically, the model suggests an essentialist representation of private and common property, market and moral exchange, a binary much endorsed by New Zealand policy makers and legislators. In this sense, Māori commercial fisheries conceived of as 'non-customary', and customary fisheries identified as 'non commercial', are reflections of this dichotomy. This crude opposition, however, is not easy to maintain in practice, as people do not operate in multiple divorced worlds discretely compartmentalised as 'economics' and 'culture', 'public' and 'private', 'individual' and 'communal', and so on. Māori 'non commercial' fishers continue to produce fish, to distribute catch to family and community members, and to exchange fish for other 'things', including cash, and Māori 'commercial' fishers at times fish for customary occasions".

### *Customary rights*

By legislative dictate Māori 'customary' fishing has been defined as 'uncommercial' since the 1992 Treaty of Waitangi (Fisheries Claims) Settlement Act saw the government split Māori fishing rights into commercial and customary rights. However, this legislation was shaped by a long held "assumption that Māori fishing activity should be limited to subsistence use" (Bess 2001, 27), which emerges out of the colonial narrative. As already outlined, "such a distinction did not prevail within the pre-colonial Māori tribal society and Māori have been reluctantly forced to accept it" (Memon et al. 2003, 207). Even though the Tribunal reports supported claims from Māori that their customary fishing rights were always also commercial fishing rights, Māori customary rights were distinguished from commercial rights (Bodwitch 2017b). Māori were not returned the same rights as they had traditionally, but rather rights as delineated by the settler state while their own rights were essentially declared 'non-commercial'. As McCormack (2010, 33) notes, that "the major thrust of the regulations is conservational can be viewed as an attempt to change Māori ownership struggles into ones more easily incorporated into state-approved concerns". Māori customary rights are defined and managed at both the iwi and hapū levels, with input from other user-groups as well as the government (Memon et al. 2003).

[3] https://teohu.maori.nz/wp-content/uploads/2018/12/Maori-Fisheries-Strategy-27-February-2017.pdf

Following the 1992 Fisheries Settlement, Māori could exercise governance over their customary fishery rights in accordance with "*tikanga* within the jurisdiction of two types of designated fishery area, the *taiapure* and *mataitai* reserves, and by using customary regulations" (Memon et al. 2003, 207). These reserves are forms of spatial governance rights, understood here as rights that enable designated groups to restrict others' rights to take fish in certain spatially defined fishing regions. Māori groups have the authority to decide where they wish to establish a customary reserve and how they wish to manage it. However, reserve implementation is contingent on government approval; Māori authority is thus partial rather than sovereign.

Taiapure "are local fishery areas, in estuarine or coastal waters, which are of special significance to local Māori communities as a source of sea-food or for spiritual or cultural reasons. They are established to give Māori a greater say in the management of these areas in collaboration with other user-groups such as recreational and commercial fishers" (Memon et al. 2003, 207). While they can technically be declared over any area within New Zealand EEZ they can only be designated in areas that have customary significance to an iwi or hapū either as a source of kaimoana or for any cultural or spiritual reason (Memon et al. 2003). Crucially, taiapure are not closed to commercial fishing and the biggest hurdle to their establishment has been objections from commercial fishers. One of the key objectives of many taiapure is the promotion of kaupapa and mātauranga as a means of sustainable management of fisheries (Memon et al. 2003).

Mataitai are reserves were Māori can "manage their fisheries according to traditional tikanga by making regulations under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. The Act makes provision for the establishment of regulations that recognise food gathering by *tangata whenua* in accordance with their customary practices and the special relationship between *tangata whenua* and those places which are of customary food-gathering importance" (Memon et al. 2003, 210). Unlike taiapure, commercial fishing is prohibited in a mataitai. The regulations made covering both motu enable Māori to fish in excess of the regulations that restrict non-Māori amateurs, with mataitai regulated by "*tangata tiaki* or *tangata kaitiaki*, who have specialist knowledge regarding management of customary fisheries". These individuals are nominated by whānau and hapū and can provide input to and participate in the process of setting or varying sustainability measures in the mataitai (Memon et al. 2003). These individuals have the authority to write authorisations, Māori or non-Māori, above daily recreational take limits (Bodwitch 2017b). The government monitors these rights through extensive reporting requirements (Bodwitch 2017b). On a customary take authorization, prior to fishing, fishers must first report how much fish they plan to take, where they plan to fish, and where the fish caught will be consumed (Bodwitch 2017b). After fishing, they must return to the tiaki/kaitiaki who authorized the take to report their actual fish take. Tiaki/kaitiaki are required to regularly submit all authorized and actual catch to the government on a Quota Management Area scale. These reports can only be used to set sustainability measures (Total Allowable Catches).

As Memon et al. (2003, 214) conclude, "The *taiapure* and *mataitai* mechanisms are little different from the reservation provisions enacted to allow for Māori fishing rights in the early 1900s. However, the contextual environment which has shaped the development of the

recent policy strategy is radically different in significant respects. There is a major concern about the cumulative degradation of New Zealand's coastal marine environment and depletion of fish stocks due to inappropriate management and overharvesting". Another interesting contrast is between the adaptive management possibilities for Māori customary reserves and the non-adaptive management strategies that define marine reserve establishment. Marine reserves prohibit all fishing, indefinitely (Department of Conservation and M. of Fisheries 2005). When the government implements a marine reserve in a particular region, they also prohibit the possibility for Māori to implement *mātaitai* or *taiāpure* or participate in customary fish provisioning practices in these areas.

There are several important economic, operational and regulatory dynamics at play in the customary fisheries sector that need to be outlined (Bodwitch 2017b):

- The restrictions on trade and reporting requirements require substantially different fishing practices than those engaged by Māori fishers prior to the privatisation of the fisheries.
- Restrictions on fish take under customary authorisations limit realisation of the customary rights, as without the ability to sell their fish, those who might otherwise be customary fishers cannot afford to buy boats, fuel or gear in order to physically access the fishery. Such restrictions can also pose limits to broader community development. Fishing on customary permits provides not only nutritional support but also economic, social and emotional support to individuals living in otherwise economically marginal conditions.
- Often iwi or hapū get members who are commercial fishers to obtain customary harvest while at work. This exposes the commercial operator to additional government oversight, and possible fines. This creates potential negativity towards Māori fishers working as deck-hands on non-Māori owned boats. This can be described as an inter-rights regime constraint; it is caused by interactions between the rights regimes and has a potential negative impact for Māori.
- Iwi fishers' best bet to outcompete others for quota purchases from retiring fellow iwi fishers is to establish an interpersonal relationship with that fisher, so that they sell the quota to the iwi members rather than on an open market. This encourages them to provide koha, stimulating traditional Māori exchange networks. This can be described as an intra-right regime opportunity, as it is caused by dynamics within a rights regime and has potential positive effects for Māori.

In 2011 as a response to the furore over the 2004 Foreshore and Seabed Act the government passed the Marine and Coastal Area (Takutai Moana) Act 2011. This Act created two specific types of customary rights. The first is 'protected customary rights', under which Maori customary activities, uses and practices (e.g. waka launching) are recognised and protected (Hickford 2015) These rights need to have been exercised since at least 1840, though they are allowed to have evolved over time. The second is a 'customary marine title' that covers a specified area of the common marine and coastal area. Customary marine title is highest form of protection of Māori rights and interests available, though is not a fee simple title that indicates permanent and absolute ownership (Hickford 2015) To obtain legal recognition of

either protected customary rights or customary marine title, whānau, hapū and iwi can apply to the court or they are able to negotiate directly with the Crown. As the stronger of the two, customary marine title has strict requirements and can only be granted if the applicant group has held the area in accordance with tikanga (custom) and has used and occupied the area exclusively since at least 1840, or after a customary transfer, without any substantial interruption. Customary marine title is inalienable, meaning that the area cannot be sold on (Hickford 2015). The Crown set a deadline for applications for customary marine title of April 3 2017 and received 385 in total, with 202 opting to be heard by the High Court (Devine 2018). The thresholds a group needs to pass to be granted this title are difficult to meet and the various applicants who have made submission to date have experienced issues getting recognition (Devine 2018). To date, no applications have been granted. Certainly the Takutai Moana gave Māori hope that they may be able to gain greater control over traditional fisheries but thus far obtaining a customary marine title has proven difficult in practice.

### *Commercial rights*

Much regarding the commercial rights has already been outlined in the above sections but there are some areas around governance, economics, operations and the constraints and opportunities that need to be outlined. Firstly, the trust, Te Ohu Kai Moana (TOKM), that allocated the commercial assets—quota, income shares in Aotearoa Fisheries Limited (now Moana New Zealand) and cash—to iwi as prescribed by the allocation model delineated in the 2004 Māori Fisheries Act remains in place, with the purpose of advancing "the interests of iwi individually and collectively, primarily in the development of fisheries, fishing, and fisheries-related activities" and providing an advisory service to its iwi constituents (Memon and Kirk 2011, 111). TOKM holds the control shares of all the settlement assets to ensure that the interests of all iwi—and not just a few large iwi—are advanced (Memon and Kirk 2011, 111). The 2004 Māori Fisheries Act saw TOKM restructured, with several trusts and companies set up: Te Ohu Kai Moana Trust, which governs the allocation and management of assets; Te Ohu Kai Moana Trustees Limited, which administers the rules of the Te Ohu Kai Moana Trust and holds the assets until they are allocated; Te Kawai Taumata, which appoints and removes directors from Te Ohu Kai Moana Trustees Limited; Moana New Zealand, which controls the commercial side of the assets; and, Te Putea Whakatupu Trust, which uses its income to fund education and research related to Maori freshwater fishing; Te Wai Maori Trust, which is mandated to advance Māori commercial freshwater fisheries (Lock and Leslie 2007). There has been some complaint about the levels of bureaucracy in TOKM (Thomas 2015) and an independent 2015 review recommended restructuring (NBR 2015).[4]

There are a number of different types of actors in the Māori commercial sector and a brief outline of these would be useful. First is what might be termed the 'iwi quota collectives', which are groupings of iwi that pool quota. The most obvious of which is the recently rebranded Moana New Zealand, which is the largest Māori fishing company by quota and revenue and is both actively involved in fishing, has shares in another collective iwi fishing partnership and leases some ACE back to individual iwi-owned fishing companies. Moana New Zealand is somewhat of a special form of iwi quota collective as it owned by all Mandated Iwi Organisations. A number of other collectives have coalesced, generally as a means of

[4] https://www.nbr.co.nz/article/restructure-te-ohu-kaimoana-throws-management-concerns-bd-172340

quota-consolidation. The largest of these is the Iwi Collective Partnership (ICP), with fifteen iwi – and has Moana New Zealand as a shareholder. ICP actively fish their quota but other iwi collectives pool their quota and on-sell it to commercial fishing operations. Then there are 'iwi fishing collectives', which are fishing companies owned by a number of iwi. Port Nicholson Fisheries is one example, existing company was purchased by a Māori trust, Parininihi ki Waitotara (PKW), the Iwi Collective Partnership (ICP) and an iwi, Ngāti Mutunga ki Wharekauri (Chatham Islands) in 2013, has since seen a further nine iwi buy into it as well as Moana New Zealand. There are also individually-owned iwi fishing, and often processing, companies including Ngāti Porou Seafoods and Ngāi Tahu Seafoods – both of which are integrated fishing, processing and distributing operations, though both also lease out some of their ACE. There are also 'private fishing firms' owned by Maori, who either lease ACE from iwi or purchase quota on the open market. For those that lease quota, they must sell their fish back to the iwi for processing. The various types of actor are all defined by quota and ACEs, with their structures all informed by the contemporary form of property right.

Memon and Kirk (2011, 111) argue that "In hindsight, redefinition of property rights has allowed Māori to gain a governance space in commercial fisheries, as seen in the ownership of large seafood exporters". They go on to note that the economic restructuring "has opened up access to a variety of new governance spaces where the finance gained from joint ventures can allow Māori-owned fishing companies to become embedded within regional economies and local communities, as well as globally within international trade and investment networks" (Memon and Kirk 2011, 111). However, the commercial rights regime "provides limited governance spaces to Māori on account of restrictions placed by TOKM and a limited capital base to fish deep-sea quota on their own" (Memon and Kirk 2011, 113).

There are several important economic, operational and regulatory dynamics at play in the commercial fisheries sector that need to be outlined:

- **The genuine economic benefits iwi have garned through the quota do not seem to be distributed equally**. Certainly, the "increased profitability and export potential of New Zealand seafood is now a significant part of some iwi's annual income stream. Some income has the potential to be reinvested, thus strengthening them in the long term, as well as enabling iwi to support education and training initiatives" (Memon and Kirk 2011, 112). That said, the "the bundle of cash and quota assets held by the central Māori fisheries trust (Te Ohu) for redistribution to *iwi*… neither alters to any noticeable degree the socioeconomic disparities between Māori and Pākehā… nor appears, for a number of reasons, to be equitably distributed" (McCormack 2010, 28).
- **Maori remain largely passive rather than active in the sector.** The "reparatory CFQs [Commercial Fishing Quotas] did not directly compensate small-scale Māori fishers who, under previous legislation, had been excluded from commercial fishing" (McCormack 2010, 28). "There is no necessary link between the benefits secured under the commercial settlement and the actual activity of fishing. A consequence of adhering to the present system is the danger of reducing rather than maintaining Māori participation in fishing. It is becoming increasingly apparent that the most

salient characteristic of quota is its transferability. The option to sell or lease quota to large companies is being taken up by many iwi; hence, quota has become more or less synonymous with an investment good as opposed to a tool that enables community participation in fishing activities" (McCormack 2010, 29).

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- **The SET quota remains fragmented.** The quota packages "had limited amounts of commercially viable species and a relative over-representation of species that Māori had neither the experience nor the financial resources to harvest" (McCormack 2010, 28).
- **The SET quota can only be sold to other MIO and is difficult to sell.** The "commercial quota granted to mandated iwi organisations (and held by their Asset Holding Company on their behalf) through the restitution process can only be bought and sold among Māori. A mandated iwi organisation must hold onto its quota for at least two years after coming into its possession and must obtain at least 75% voting confidence from the iwi members itself until it can be sold" (Memon and Kirk 2011, 113). This external regulation has a degree of paternalism and while the quota is "designed to be priced, as a transferable property right, such restrictions limit its ability to be sold, thus restricting its value" (Memon and Kirk 2011, 113). This can be described as an intra-rights regime constraint; it is caused by internal dynamics within a rights regime and has potential negative effects for Māori.

### Regulatory barriers to increasing value

Despite the ITQ system conveying commercial rights to Māori, there are also problems with the ITQ system itself in regard to the development of Māori fishers. The government's ITQ system management policies that make possible processor control of both fishing rights (ACE) and market access (Licensed Fish Receiver certification) inhibit Māori fishers' economic development in several ways.

1. Fishers' limited access to markets, due to processor control of quota, restricts opportunities for value-added provincial branding (i.e. Harvey 2002). When fish caught by small-scale fishers is sold to major processors and combined with larger boats' catches for package sales to large grocery chains," adding value through fisher identity or location is impossible (Bodwitch 2017a).
2. Barriers to small-scale fisher access also pose barriers to compliance. When fishers are unable to access benefits from fish sales, they may be more likely to engage in illegal, unreported, or undocumented fishing, especially when other economic development opportunities are not available (Allison et al. 2012).
3. Barriers to small-scale fisher access pose barriers for local economic development (Bodwitch 2017a). Processor consolidation increases the capital fishers must invest in order to obtain quota and access markets. Fishers target high-end markets to cover costs, when the possibility for a fisher to cover processor costs by selling more fish is limited by a lack of quota ownership, and the ITQ system's caps on total fish take. Often these markets are overseas, especially when the fish is a species that non-Māori New Zealanders rarely consume, as is the case for tuna. Reliance on export markets excludes individuals who previously organized local fish sales and exchange off the docks.

## Ecosystem Services, Ecosystem Approach and Ecosystem-Based Management

There are concerns the regulatory systems introduced by the Crown for the ownership and management of fisheries are failing to ensure the sustainable management of marine resources. In the past decades new models for managing marine resources have emerged and are competing for adoption through marine policy and regulation. These new models have implications for Māori, as once again they will impact upon Māori rights and interests in the management of marine ecosystems and economy. The most influential of these new models is ecosystem-based management (EBM). This section will examine EBM, but first it will outline both ecosystem services (ES) and the ecosystems approach (EA) as they inform, underpin and, in the case of EA, are sometimes used synonymously with EBM (Werner et al. 2014). One caveat is that here the focus will be critical rather than conciliatory, seeking to examine the possible conflicts and contrasts between these western concepts and Māoritanga, as the aim is to interrogate these approaches and ensure that the integrity of Māori kauapapa and tikanga is retained.

### Ecosystem Services

The concept of ecosystem services (ES) emerged in the late 1970s in response to the increasingly obvious degradation of the global environment (Westman 1979). Generally, it frames nature through the services provided to humanity, or "the benefits people obtain from ecosystems". The growing concern over the environment saw “ecosystem functions which are deemed beneficial to society, [framed] as economic services” (Braat and De Groot 2012, 5). Originally the “utilitarian framing of beneficial ecosystem functions as services” was intended to “increase public interest in biodiversity conservation” (Gómez-Baggethun et al. 2010, 1209). ES has ‘economic roots’, with a social intention, seeking to “frame ecological concerns in economic terms in order to stress societal dependence on natural ecosystems” (Braat and De Groot 2012, 6). However, in the decades since there has been “a move from the original emphasis on ecosystem services as a pedagogical concept designed to raise public interest for biodiversity conservation, towards increased emphasis on how to cash ecosystem services as commodities on potential markets” (Gómez-Baggethun et al. 2010, 1209). The Millennium Ecosystem Assessment (MEA 2003) popularised ES, defining ‘services’ as the benefits that people obtain from ecosystems, include provisioning services (e.g. food and water), regulating services (e.g. flood control), supporting services (e.g. nutrient cycling) and cultural services (e.g. recreational opportunities). Using the four main MEA (2003) categories of ecosystem services, Dymond et al. (2012) identified, defined, and listed 33 main service sub-categories of ecosystems in New Zealand. These services make up a comprehensive ecosystem classification framework whereby trends and measures can be assessed. The MEA (2003) framework identifies benefits of ecosystems services, so that decision-makers can understand how their actions might change these services, consider trade-offs among options, choose policies to sustain a mix of services etc.

There are, however, several interrelated issues with ES. Firstly, despite attempts to broaden the concept, ES is fundamentally economic. ES, as Dempsey and Robertson (2012, 759) note, is "the vanguard of the neoliberalization of nature", commodifying nature and seeking to fully embed it in the market through concepts like 'Market Based Instruments for conservation' (Gómez-Baggethun et al. 2010). Secondly, ES emphasize the value of nature as instrumental – nature's worth is in its utility or 'service' to humanity As Raymond et al. (2013, 563) note, "[m]ost ecosystem service assessments have been framed using the conceptual metaphor of economic production, which has encouraged a focus on the benefits of ecosystems to humans in terms of how the processes of nature deliver supplies and goods, coupled with an economic quantification of the costs and benefits of providing those ecosystem services and goods". Thirdly, by focusing on the services that are beneficial to humans, many other aspects of an ecosystem are ignored. The concept of ES "does not account for ecosystem interactions beyond perceived stocks and flows" (Raymond et al. 2013, 564). Fourth, 'valuing' these services is itself problematic. In one of the most cited articles on ES, Costanza et al. (1997, 253) explain that "[b]ecause ecosystem services are not fully 'captured' in commercial markets or adequately quantified in terms comparable with economic services and manufactured capital, they are often given too little weight in policy decisions". Twenty years on many of the same authors revisit ES, noting the continuing "weakness of the mainstream economic approaches to valuation, growth, and development" (Constanza et a. 2017, 1). Fifth, the cultural services component is often undervalued or side-lined. Comberti et al. (2015, 248) write that, "[h]arder to value economically, 'cultural ecosystem services' (CES) have been comparatively neglected in ecosystem service assessments" and that "CES are thus marginalised as a residual category within the rapidly growing field of ES research and practice".

### Ecosystem Approach

Emerging out of discussion in the 1980s, and partly in response to ES, the ecosystem approach (EA) was popularised by the Convention on Biological Diversity (CBD) in 1993. As Haines-Young and Potschin (2010, 111) explain, "[p]eople argued that a new focus was required to achieve robust and sustainable management and policy outcomes. An Ecosystem Approach, it was suggested, would deliver more integrated policy and management at a landscape-scale and be more firmly directed towards human wellbeing" than ES. EA sought to provide a conceptual framework for resolving ecosystem issues through an integrated approach that considers all ecosystem components including humans. The Convention (quoted in Garcia 2003, 5) defined EA as "Ecosystem and natural habitats management…. To meet human requirements to use natural resources, whilst maintaining the biological richness and ecological processes necessary to sustain the composition, structure and function of the habitats or ecosystems concerned". Atkins et al. (2011, 216) explain that "[w]hile 'an ecosystem approach' was initially an ecological term which referred to natural ecosystem functioning, since the early 1990s this has been adopted as 'The Ecosystem Approach' which aims to place human society as a central part in the ecosystem". At its core EA is about acknowledging the interdependency of connections, including those linkages between ecosystems and humanity, and how these components of the ecosystem interact and react, providing a conceptual framework to help humans manage the planetary ecosystems by incorporating humanity, economics and the various ecologies. Vihervaara and Kamppinen (2009, 80) have noted that one of the key criticisms of EA is that the twelve principles

developed by the CBD "are not linked to any particular operational procedures and do not include clear targets or guidance for practical application". Another key criticism is that despite its more integrated approach it still "seeks to put human needs at the centre of biodiversity management" (Haines-Young and Potschin 2010, 111).

### Ecosystem-Based Management

Recent approaches to dealing with the complexities associated with the management and governance of coastal and marine areas have focused on the development of ecosystem-based management (EBM) frameworks (Folke, Hahn, Olsson and Norberg 2005). Emerging out of growing recognition and understanding of the need to shift beyond "species or sector based management and adopting a more comprehensive eco-system approach" (Leslie and McLeod 2007, 540), EBM is "an integrated approach to management" of marine resources that considers the range of interactions that occur within an ecosystem, including humans as part of this system, rather than considering single ecosystem services in isolation (Crowder and Norse 2008, 772). As Ward et al. (2006, 7) explain EBM "of fisheries makes ecological sustainability the primary goal of management, as well as recognising the critical interdependence between human well-being and ecological health". EBM promotes equitable and sustainable use and conservation of marine resources; the goal is to maintain ecosystems in healthy, productive and resilient conditions to ensure the continued provision of goods and services (McLeod and Leslie 2009).

The integrated approach of EBM offers a useful roadmap for progressing towards a holistic understanding of sustainability. It differs from current single sector or species management strategies that do not account for the range of activities and interactions that affect marine ecosystems. As Crowder and Norse (2008, 772) explain, "ecosystems are places, and ecosystem-based management is therefore inherently place-based. Moreover, social, cultural, economic, and political attributes overlay these biophysically defined places. Thus, approaches that integrate natural and social scientific perspectives on defining and managing places at sea are necessary to implement ecosystem-based management". According to Leslie and McLeod (2009, 540) there are several key reasons to shift to an EBM approach. First, scientists acknowledge there is substantial and continual decline and degradation in ocean wellbeing and their ability to survive the ongoing human onslaught. Second, the current status quo is inadequate to manage a sustained approach in coastal and ocean resources. Third, EBM does not begin at the "low–water' mark" (Leslie and McLeod 2009, 540). EBM is about interactions, acknowledging the connections between humans within the eco-system and that EBM connectivity begins with connecting… environment policy and management efforts across air, land and sea boundaries" (Leslie and McLeod 2009, 540). EBM's integrative and cooperative approach to engage in conversations across sectors, stakeholders and users at every level of society further cements the notion of a collaborative and workable process for many. It can be seen as a democratisation of ocean management. EBM can also be implemented concurrently with other existing management plans, whilst adding a broader brush stroke to consider participation of all its citizens. However, while EBM holds potential – and in many ways because of that potential, it "has been hardly ever implemented successfully because numerous problems can arise from competing interests among

stakeholders, undeveloped or inappropriate governance structures, poor science, or lack of political will" (Aswani 2011). This is echoed by Kahui and Richards (2014, 1), who write that "[w]hile scholars and policy-makers all want ecosystem based management (EBM), few, if any, have achieved it in practice". Long, Charles and Stephenson (2015, 53) also write that despite "international popularity… the lack of consensus on [EBM's] definition has precluded the use of a universal implementation framework". Likewise, more recently Smith et al. (2017, 1990) have stated that "progress towards implementing and operationalizing [EBM] has been slow". This was also something that Joseph et al. (2018, 29), in another Sustainable Seas report, noted, writing that the "literature highlights that EBM represents an approach that is largely still under-developed".

### Differentiating between ES, EA and EBM

Making the connections between ES, EA and EBM explicit is not easy and this is itself problematic from an indigenous perspective. Raum (2017, 283) explains that ES is often confused with EA, noting that "the more integrated ecosystem approach was often used as synonymous with the more limited and arguably more anthropogenic concept of ecosystem services". While these two concepts are framed differently it seems that they have an almost tautological relationship in application. In theory, EA is focused on systems rather than services though arguably in practice it ends up relying on ES, or ES-like conceptualisations. As Beaumont (2007, 253) explain "[o]ne method of ensuring the integration of social, economic and environmental demands and pressures, as required by the Ecosystem Approach, is to utilise the concept of ecosystem goods and services". By their determination, EA relies on using the ES concept, or at least on the idea of ecosystem goods and services". The CBD outlined twelve principles of the EA in 2000 (quoted in Atkins et al. 2011, 217) with the fifth listed as the "Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of The Ecosystem Approach".

To add to the lack of delineation, EBM is often conflated with EA, as Slocombe (1993, 612) reveals when he writes, "Ecosystem-based management, or an ecosystem approach". Similarly, McLeod and Leslie (2012, xiii) write "Ecosystem-based management, also called "the ecosystem approach". Thus, while EA/EBM are portrayed as 'less anthropocentric;, recently "the importance of human benefits from the environment has played an increasingly dominant role in conservation, and sustainable delivery of "ecosystem services" has become a prominent part of newer conceptions of EBM" (Wessen et al. 2015, 67). One description of EBM is that it "strives to reconcile" conflicting development and conservation uses "by valuing ecosystem services and thus justifying the maintenance of many natural systems 'in healthy, productive and resilient conditions so that they can provide the services humans want and need'" (Barbier et al. 2008, 321). Likewise, another statement is that "[a] core requirement of implementing ecosystem-based management (EBM) for marine and coastal environments is the adoption of an ecosystem services (ES) approach" (Werner et al. 2014, 178). Seeming to both explain the confusion and encapsulate it, Granek et al. (2010, 209) explain that: "Differences in focus, knowledge, and terminology among different groups make reaching consensus in EBM difficult. Groups with different interests in ecosystems often talk past each other, hear what they want to hear rather than what is being said, or discount what is being

said as lacking credibility or relevance. These problems of human communication are exacerbated by the complex ecological interactions and cumulative impacts of diverse human activities across a large suite of ecosystem services". Here they provide insight into why EBM lacks clarity and consistency whilst also conflating it with ES.

Though far from accurate, it appears that generally speaking EA and EBM tend more towards being conceptual frameworks *guiding* management practices (with EBM possibly as a more applied iteration of EA) while ES is more focused on *measuring* management practices – at least as outlined in the above quotes. While originally these three 'ecosystem' terms may have attempted to delineate different conceptions of humanity's interactions with and sustainability of nature, ultimately it seems that their distinguishing features have been corroded and their differences collapsed. In particular, while EA and EBM may share an integrated view of ecosystems both seem to be increasingly dominated by ES as, at the least, the underlying metric used to measure and guide. Even ignoring the ethical issues of ES, that EBM is grounded in ES language and metrics is problematic as the methods used to identify and value various ecosystem services are still being developed (Bennett, Peterson and Gordon 2009). While this lack of clarity over key concepts is common in academic disciplines for Māori it is somewhat problematic as while EA/EBM may have greater resonance with Māori principles and practices, their use of ES is concerning as it implies that adoption of EA/EBM could see the underlying issues with ES seep into the management system – particularly as EBM seems to be facing not just definitional issues but practical ones surrounding its operationalisation and implementation. This is not to deny Māori agency but rather warn that there is risk in these systems suggesting that in the adoption of any of these approaches there needs to be awareness of these risks and strategies in place to mitigate and ameliorate them.

## Comparison of ES/EA/EBM with Māori approaches.

There are a number of similarities between ES and, particularly, EA/EBM (from now on EBM) and Māori approaches to sustainability though there are issues as well.

ES in the Millennium Ecosystem Assessment (2003) were defined as benefits whereas Costanza et al. (1997) defined them as values. In the interests of conceptual clarity, Chan et al. (2012, 9) noted that services are the production of benefits (where benefits can take the form of activities), which are of value to people and accordingly defined "'cultural services' inclusively as 'ecosystems' contributions to the non-material benefits (e.g. capabilities and experiences that arise from human ecosystem relationships)". Harmsworth and Awatere (2013) argue that a significant component of Māori cultural values transfers into direct and indirect benefits, and some cultural values transfer directly into cultural services while others do not. Many of the 'non-monetary', 'non-material', 'non-use' or more 'intangible' cultural values described previously would fit this definition of 'ecosystem contributions to non-material benefits' (Chan et al., 2012). While there may be ways to accommodate ES within the Māori worldview, the dominant form of ES is clearly a western way of relating to the environment, with nature framed as a set of 'systems' that provide 'services' with the means of conserving them conceptualised as 'paying' for them. As Redford and Adams (2009, 785) warn, "in a world of relentless pursuit of economic logic, there is a real risk that economic arguments about services valued by humans will overwrite and outweigh noneconomic justifications for conservation". There is a real danger that the 'cultural' becomes a 'bolt on'

to justify the more economically-focused ES usage. As Comberti et al. (2017, 249) write, "developments of the CES [cultural services] concept invariably bias "leisuretime" concepts of the use of nature, such as tourism, recreation, beauty and inspiration, or the mental and physical health benefits of interacting with nature" – they reinforce the western relationship with and view of nature. They "have proved difficult for ES assessments due to the cultural challenges to valuing them either qualitatively or quantitatively" (Lyver et al. 2017, 100) and remain "under-studied and under-represented" (Pascua et al. 2017, 465). In their attempt to operationalise ES for indigenous actors, Bark et al. (2015, 247) "found that indigenous values pertaining to holism and connectivity are not well represented in scholarly efforts to categorise cultural ES, suggesting that this is a particularly difficult question for the approach to accommodate". Thus, while it seems likely that Māori will need to incorporate ES into their operations because of their growing ubiquity, this needs to be done in cautious manner that ensures core Māori kaupapa is not eroded or degraded. Likewise, any non-Māori use that seeks to incorporate Māori kaupapa into ES should be wary of its use as a 'rubber stamp'. This does not mean that ES cannot be incorporated into Māori operations, rather that it needs to be done in conscious manner that is wary of the potential issues. ES has been utilised with and by indigenous groups around the world to greater and lesser effect (see Bark et al. 2015; Chan et al. 2012; Comberti et al. 2017; Sangha and Russell-Smith 2017).

Moana New Zealand has recently conducted an 'ecosystem services review' (ESR) for their pāua fishery, which incorporated cultural services along with the other ecosystem services. In fact, three of the six ecosystem services identified in the review are 'cultural': 1) recreation and ecotourism; 2) education and inspiration; 3) and ethical and spiritual values. In one document pāua is described as 'important recreationally' as "pāua shells are collected for their beauty, for amateur jewellery making, and for games".[5] Pāua also 'supports tourism' as it is, as the first example outlines, "represented in local art and displays". It is also used in 'formal and informal education', with an example explaining that "Pāua and its ecosystem also provide a rich source of inspiration for art, folklore, national symbols, architecture, and advertising". Pāua 'connects with a sense of belonging' and is tied into 'cultural belief systems and practices; one example given is that "at the PāuaMAC 2 executive committee meetings, discussions occur where committee members who are Māori often speak with pride about their tribal area", another is that "pāua is identified [by Māori] as a highly esteemed taonga, as food, as a component of arts and traditional crafts, and for the role it plays within its ecosystem".[6] The cultural services in Moana New Zealand's ES review are largely descriptive rather than prescriptive, in that the ESR catalogues the ways that pāua provide those services in very general terms and does not provide in depth analysis of how these services should or could be valued, improved or monitored. It is also largely categorical rather than synthetical, treating each service separately rather than seeking to examine them in conjunction with one another. By contrast the supporting, provisioning and regulating services are given a more detailed and integrated analysis that provides more than description and categorisation – they form the core of the analysis and are largely disconnected from the cultural services. Also, the only wellbeing considered in the ESR is human wellbeing, with ecosystems and their components described as "the stocks of natural capital that underpin human well-being".[7]

[5] http://moana.co.nz/wp-content/uploads/2017/06/AFL-1501-ESR-Paua-Book-V7-final.pdf
[6] http://moana.co.nz/wp-content/uploads/2017/06/AFL-1501-ESR-Paua-Book-V7-final.pdf
[7] http://moana.co.nz/wp-content/uploads/2017/06/AFL-1501-ESR-Paua-Book-V7-final.pdf

Certainly, the ESR expanded Moana New Zealand's strategic scope – though it remains to be seen if it has the same impact on its operational scope – and has brought it closer in line with the underpinning Māori principles and practices. However, the issues with ES are present in this review and it is argued that more work is required to fully embedded this concept in Māoritanga – particularly around the need to view the 'services' in an integrated manner, ensuring that the financial and biological components do not dominate with cultural aspects as 'bolt ons', and considering non-human wellbeing. It needs to be stated that ES provides more scope for indigenous input into environmental management than the previous, relatively ad hoc methods employed by the west but this does not mean that ES should be accepted uncritically.

EBM has a greater resonance with the Māori worldview and kaupapa because of its systemic focus and for its greater emphasis on the integration of natural and social/cultural elements. This resonance has been recognised by a number of The Coastal First Nations group of Canada even state that they "have been practicing 'ecosystem-based management' of the land and sea through countless generations stretching back more than 10,000 years" and that it "is only in recent decades that this old way has become expressed in scientific terms called ecosystem-based management (EBM)".[8] Long et al. (2017, 54) believe that "the philosophies behind it are far from new and in some areas have been practised by indigenous peoples for over ten thousand years". Kahui and Richards (2014) outline how traditional Māori approaches towards marine sustainability can provide a practical means of putting EBM into practice, including: clearly defined group boundaries; congruence between appropriation and provision rules and local conditions; collective-choice arrangements; monitoring and graduate sanctions; conflict-resolution mechanisms; and, nested enterprises. As they (Kahui and Richards 2014, 1) write, "*kaitiakitanga* (stewardship) as an integrated management system generally aligns with the principles necessary for successful EBM". Generally speaking, the underlying philosophies, or views of nature and human-nature relations, between EBM and Māoritanga are similar. Also, as Joseph et al. (2018, 15) note, "EBM does not negate different paradigms and world views, rather it seeks to balance those interactions".

There have been examples of practical implementation where EBM principles have been taken up alongside an indigenous approach to natural resource management or have given indigenous actors a central role in decision-making (Takeda and Ropke 2010; Tiakiwai et al. 2016). The Wildlife Conservation Society (WCS) has been working for over a decade in Fiji putting EBM into practice with local communities, though their focus is largely on resource management in collaboration with locals rather than incorporating indigenous knowledge and practices. For example, a five-year review of the programme by the leaders (Jupiter and Egli 2011) is focused on increasing biomass and closing fishing zones with no discussion of Fjiian beliefs or practices – it is telling that these Jupiter and Egli both have degrees in marine ecology. Tiakiwai et al. (2016), another Sustainable Seas project, examine several Canadian examples where EBM has been utilised with what appears to be more indigenous input and influence and indicate that for EBM to be applied to New Zealand marine management five key elements would need to be addressed: power dynamics between Māori and the Crown; jurisdictional issues; iterative adaptive management; agency of Māori in decision-making; and

[8] https://coastalfirstnations.ca/wp-content/uploads/2017/06/intothedeepblue.pdf

recognition of matauranga Māori. It should be noted that Tiakiwai et al. (2016) were positive about indigenous, and specifically Māori, use of EBM. That said, they did note that "First Nations participants in this research explained that the overarching EBM definition did not meet their specific views of EBM. This highlighted the need for an adaptive view of EBM – that while there is an agreement at a high level of what EBM is, that EBM can mean different things to different peoples" (Tiakiwai et al. 2016, 38-39). Joseph et al. (2018, 29) are also relatively positive about the incorporation of EBM by Māori, but they do note that the "most significant challenge to implementing EBM however, is striking the elusive balance between neoliberal economic interests and environmental sustainability goals".

Despite the similarities between EBM and Māori approaches, there remains a gap. This can likely be explained by the power and influence of an entrenched western worldview. As Tiakiwai et al. (2016, 44) note, also raising the spectre of ES, the "EBM model positions EBM as a system where human wellbeing is derived from a series of ecosystem services – a model which has Eurocentric connotations". Recognising the validity of a complementary worldview to that of the western-oriented EBM requires the rejection of the standard method of co-opting indigenous knowledge into Western models (Tiakiwai et al. 2016). This recognition is essential for achieving integrated ecosystem-based management which is evident in other environmental management case studies (Maclean and The Bana Yarralji Bubu, 2015). EBM needs to develop a process of integrated management that encompasses meaningful and legitimate collaboration, co-planning, the use of Māori principles and knowledge of ecosystem restoration and management, and co-action across regional and local scales. It seems the overarching power imbalance between Western and indigenous is hampering the co-operation, co-governance and co-management necessary for this management approach to move from theory to practice. A good example of the power imbalance can be found in Takeda et al.'s (2010) study on the development and implementation of EBM for the Haida's forests. The Haida, who are part of the Coastal First Nations quoted above, called for EBM-based management after years of destructive forestry and after the Province of BC accepted their proposal there was initial hope that this would deliver a positive result as the process – also involving industry, environmentalists and labour – particularly as it was to be co-managed and co-chaired by the Haida (Takeda et al. 2010). However, Takeda et al. (2010, 187) conclude that there were "problematic relations of inequality and dominance operating through the planning process". They go on to explain that while EBM has an emphasis on transforming power relations through the creation of power-neutral, deliberative forums, what they found was that "the consensus-seeking forum was constrained by the broader institutional and political structures which it remained firmly embedded in". Tiakiwai et al. (2016, 48) also noted that while the Canadian EBM was framed as a 'government-to-government' process, "First Nations respondents were frustrated when government reduced the constitutional relationship to one where First Nations were treated as stakeholders".

Despite this, EBM is considered resonant in principle but requires careful implementation that takes into account the issues raised above, including the five identified by Tiakiwai et al. (2016). Of the five, power balance, jurisdiction and agency are possibly the most important. Essential to the successful creation of a Māori EBM is rangatiratanga – that is power, influence and agency – within the institutional framework or at least within the EBM itself. For EBM is as much a form of co-governance system as it is a management system. As Joseph et al. (2017,

46) note in their review, “continued ability for Māori to exercise rangatiratanga over the natural environment as anticipated by the Treaty of Waitangi/Te Tiriti o Waitangi in 1840 is inadequately provided for under the current legislative regime… given that Māori are not positioned as equal partners in decision-making and management processes. Rather, the Crown’s institutions and frameworks such as the RMA position Māori as stakeholders reinforcing the marginalisation, compromise, redefining, minimising or even exclusion of mātauranga and tikanga Māori from environmental management in substantive ways”. Olsson et al. (2008) conclude in their study of the implementation of EBM for the Great Barrier Reef, of “the critical role of flexible governance systems that can deal with complex and dynamic ecosystems by linking individuals, networks, organizations, and institutions across multiple levels of human activity”. The issue is that “the New Zealand resource management framework operates on different levels and is managed by a number of agencies, each of these agencies are focused on separate elements of resource management. It can be said that New Zealand’s framework is a fragmented approach as it does not approach resource management from a holistic or integrated governance approach” (Tiakiwai et al. 2016, 18). Taylor et al. (2018, 17) in their Sustainable Seas report, note that “EBM is unlikely to be successful where ‘ownership’ and/or jurisdiction have not yet been established. This is challenging in Aotearoa, particularly in the marine and coastal area, where hundreds of iwi, hapū, and whanau are currently negotiating with the Crown over their ownership rights and customary interests in natural resources”. After outlining New Zealand’s legislation regarding environmental conservation, Love (2018) explains that “[i]ncorporation of Māori approaches to environmental management varies across the legislative and policy framework that manages the marine environment. Despite this incorporation, the effectiveness of Māori approaches to environmental management has been limited. There are a number of explanations for this ineffectiveness, including weak statutory provisions, a lack of specificity, a general lack of understanding of the Māori worldview and therefore the Māori approach to environmental management, a hierarchical approach to environmental and resource management, a lack of recognition of tikanga as law, and inconsistent approaches to interpretation”. Aswani (2011, 10) notes, after examining many of the congruences between EMB and indigenous methods, in “Oceania, there are a number of challenges in harmonizing EBM with CM [indigenous cultural management] systems, and simultaneously being in sync with provincial and national regulations and policies”. This is problematic as in New Zealand “[l]egislation and policy is generally ad hoc and not fit for purpose for either [EBM or traditional rāhui] management approach” (Taylor et al. 2018, 32). Māori need power and agency in EBM to ensure the outcome is congruent with kaupapa and tikanga, but the other levels and interactions of New Zealand’s contemporary governance regime and the associated policies and regulations need also be considered, as does the fundamental Treaty relationship. Taylor et al. (2018, 23) note that growing Māori economic power may be able to help redress power imbalances and that the “change in socio-economic power and authority potentially offers a very useful pathway to support and drive EBM approaches that are informed by and respond to Māori philosophies, values, and practices”. While there are many sectors in which Māori economic power is growing, the fishing sector stands out as one where there is already considerable might and this does suggest that some form of culturally congruent EBM could be developed.

Closely connected to this is another consideration. While the use of traditional Māori kaupapa and tikanga is essential, it is also important to 'recalibrate' these for the contemporary environment. "Tipene O'Regan notes that Māori environmental values have often been in 'freeze frame'; because Māori were not in positions of authority, they have not had to develop traditionally based policies or controls for recent environmental developments" (Memon et al. 2003, 209). Memon et al. (2003, 209) go on to explain that "[w]ithout having had a meaningful way to apply *tikanga* through the exercise of *tino rangatiratanga* over time, Māori are now redeveloping management tools to assess the scale and effect of current customary fisheries activities on aquatic ecosystems in collaboration with other stakeholders and scientists". Furthermore, "[m]ataitai have also provided tangata whenua with a mechanism to bridge the gap created by environmental values being in 'freeze frame', where a lack of authority has prevented the development of traditionally based policies or mitigation of environmental impacts associated with development, such as the discharge of sewage into water" (Memon et al. 2003, 212-213). This need to recalibrate is important not just because of the policy and regulatory framework, but also due to the vastly different nature of contemporary fishing methods to those of traditional Māori.

## Creating a Mana Māori Marine Economy

To expand on Hēnare's concept of the 'Economy of Mana', the aim of this project is to create a Mana Māori Marine Economy (M-MME). That is, an MME where the economic aspects are embedded in the social, where the exchanges that make up the MME are guided by kaupapa and tikanga, fulfilling the core principles, and sustaining the ecosystems in which it takes place. There are a number of key strategies through which an M-MME can be created, one that ensures that financial capital can be grown at the same time as natural and social capital. Key to this is adding value to the catch both because it is limited by the regulatory framework and also because this is an expression of kaitiakitanga. The seven strategies we will outline below are: the development of a culturally-congruent EBM; the continued development of Māori customary rights; encouragement of a reciprocal exchange system; hapū and whānau level subsidiarity; integrated Māori-oriented value chain, branding and marketing, and provenance and authentication. These strategies all work in conjunction and roughly run from the restitution of traditional MME practices through to the addition and adoption of more 'modern' techniques.

### The development of a culturally-congruent EBM

A culturally-congruent EBM will be developed in the second phase of this research and the following should be taken as broad strokes suggestions that serve as a scoping rather than a detailed and in-depth discussion. Primarily, a culturally-congruent EBM will provide Māori and the Māori fishing sector with a powerful tool for conservation that will sustain the fishing resources intergenerationally, helping created an indigenous blue economy that will last. An EBM that aligns with and enacts Māori principles and practices would provide an interface, or bridge, between Māori and western worldviews that would not only see the former given greater precedent but would also work to help integrate the two, especially as there has been a growing trend in the west towards views more similar to Māori and other indigenous peoples. A culturally-congruent EBM would have to be equally guided by kaupapa, tikanga

and matauranga as well as science. That is to say, that it would need to be built from the ground up with the Māori worldview as a primary guide and it would need to be implemented using both Māori and western knowledge systems. As has been argued (Reid and Rout 2018), the Māori worldview can accommodate western tools but it must used as the guide for development and implementation from the outset. It is believed that the use of kaupapa, tikanga and matauranga would not impact the 'buy in' by Pākēha as EBM is essentially an expression of Maori principles without the spiritual and metaphysical components and most New Zealanders are now familiar with core Māori sustainability terms and concepts. In essence, the use of the Māori worldview to guide EBM would not compromise the EBM for Pākēha significantly and would benefit Māori, and the EBM itself, enormously. As noted above, EBM is flexible and can encompass other worldviews, meaning that a culturally-congruent EBM would not see the core principles of EBM compromised. Likewise, as Joseph et al. (2018, 16) explain:

> "Tikanga Māori then could correlate harmoniously with EBM generally by focusing on what EBM is striving to achieve, not necessarily how to achieve its ends highlighting again the flexibility of EBM. In saying that, a similar advantage of tikanga Māori is also its flexibility, which is context specific. It would appear however that given tikanga Māori focuses on relationships and the physical and metaphysical world, process is as important as the outcomes sought to maintain mana (rights, interests and responsibilities), rangatiratanga (authority) and tautuutu (reciprocity and balance)".

Any EBM would need to see Māori in a genuine co-governance position from the outset, its mandate would have to prescribe equal input and influence from Māori and Pākēha stakeholders. The Sustainable Seas programme recognises the importance of this, outlining that any EBM would need "a co-governance and co-design structure that recognises the Māori constitutional relationship and mana whenua at all levels (whānau, hapū, iwi), together with the guiding principles of mauri, whakapapa, kaitiakitanga, mātauranga-a-iwi and mātauranga-a-hapū" (Joseph et al. 2018, 2). It is important that hapū are involved in the development of the EBM as well as they are the kaitiaiki, and hold the matauranga, of the many various ecosystems along the coastline (Tiakiwai et al. 2016). This is not a process that can be conducted by iwi alone, but rather needs to have both a bottom-up and local focus (Tiakiwai et al. 2016). The problem with many participatory approaches to sustainability that aim to bring many stakeholders together is that they provide a veneer of input and influence for all stakeholders rather than real co-management or co-governance and this would need to be overcome (Reed 2008). While there are legitimate concerns that the "[i]ncorporation of Māori concepts [into Crown legislation] has been considered a relinquishment of the claim to tino rangatiratanga because recognition of tikanga is occurring within the framework of Crown sovereignty" (Love 2018) an EBM that is guided by the Māori worldview and sees the implementation of sustainability practices that are closely aligned with traditional Māori practices would help reinforce tino rangatiratanga, or at least mana moana, if there are legitimate co-governance and co-management mechanisms in place.

In fact, the development and implementation of such an EBM could help with wider indigenous authority issues both within New Zealand and beyond. Through a collaborative development process between Māori and Pākēha, a culturally-congruent EBM could help

orient and normalise collective resource management governance in New Zealand. Joseph et al. (2018, 29) believe that "there is an opportunity for New Zealand to contribute to the developing definition of EBM by adding to the existing rhetoric of authentic power sharing models at the interface of tikanga Māori and mainstream New Zealand environmental law, policy and practice where Indigenous communities are authentically represented thus normalising the presence of Indigenous peoples within an EBM context". As they (Joseph et al. 2018, 3) go on to note, "Māori environmental perspectives deserve to be fully integrated, not treated as an add-on, afterthought, or a group of matters placed in opposition to (or as grudging concessions to) a dominant mainstream New Zealand Western paradigm. To treat them as a separate theme would deny their potential for synergies with other matters including EBM over the natural resources and would partition Māori challenges from their broader systemic context".

It is also important that a culturally-congruent EBM is not the only way in which Māori express kaitiakitanga. There has been concern that the embedding of Māori concepts into Crown legislation has limited their scope. As Love (2018 – quoting Jackson) writes, "incorporation [into Crown legislation] "captures, redefines, and uses Māori concepts to freeze Māori cultural and political expression within parameters acceptable to the state" and thereby confines customary law to a perception of worth that is externally determined". As Joseph et al. (2018, 30) state:

> "It is… important that Indigenous peoples retain traditional ecological knowledge and customary practices separate and distinct from EBM so that Indigenous practices are not co-opted and redefined by political processes, as is the current case in New Zealand with some tikanga Māori concepts such as kaitiakitanga for example. An acknowledgement of the distinct nature of both tikanga Māori and EBM would ensure that the role of Māori as kaitiaki for example, will not be dulled by policy, mainstream law and misinterpretation, which allows Māori to retain the mana to decide how kaitiakitanga is to be enacted within an EBM hybrid context, or conversely, how EBM is to be implemented within a kaitiakitanga framework".

This culturally-congruent EBM can also be used in the branding and marketing of Māori fishing products – which will be discussed in a following section in full. The implementation of a culturally-congruent EBM would provide a powerful opportunity for Maori fishing companies to communicate the sustainability of their principles and practices and, in turn, the core components of their cultural identity which would help differentiate the product. The Fisheries Minister Stuart Nash believes an EBM "will create added value" because consumers are willing to pay a premium for products that are produced sustainably.[9]

### Continued development of Māori customary rights

The second strategy is for the continued development of Māori customary rights, particularly the expansion of the taiapure and mataitai. A quick précis of the situation will help contextualise this strategy. Before the Treaty of Waitangi, Māori had a sophisticated, complex

[9] https://www.seafoodnewzealand.org.nz/publications/tim-pankhursts-captains-blog/single/?tx_ttnews%5Btt_news%5D=1245&cHash=2fc765f56783df1b1b94f204847d2383

and nuanced marine economy that balanced economic necessity with social bonds and environmental sustainability. Following the Treaty and up until the 1980s, the fisheries around New Zealand had been held in common and while Māori had not been able to compete with the increasing industrialisation of the Pākehā and international fishing operations they still were still able to exercise their own right to fish. This situation had brought the fisheries to the brink of collapse, and in the interests of maintaining them as an economic resource the settler state decided to privatise them. With the QMS and ITQ Māori were essentially edged out of fisheries through both intentional and incidental means. Both the process and outcome of the privatisation of fishery property rights effectively closed the loop on what had begun with the Treaty of Waitangi; while rangatiratanga had been largely extinguished over the whenua many years before Māori still had a *de facto* mana moana until the QMS. However, at the same time this change gave Māori the necessary leverage to legally challenge their sudden loss of mana moana. Because of the need to settle the fisheries issue the Crown had to find a solution to the issues over the marine estate before the negotiations between the various iwi and the Crown regarding the grievances over Treaty breaches were concluded. As a result, Māori were given both customary and commercial rights. This bifurcation does not fit with the traditional MME as customary rights *were* commercial. However, they are an improvement on the previous situation, and the best overarching strategy for Māori is to use both sets of rights together in a way that best fits with their traditional MME. Therefore, there is a real need for Māori to continue to develop their customary rights as far as the law allows it as this supports mana motuhake.

This means that Māori need to establish taiapure and mataitai in a way that not only benefits those specific fisheries to which these are applied but also the wider EEZ fishery as a whole. There is also potential for these to be created in ways that work in conjunction with other marine reserves, as Taylor and Buckenham (2003, 40) explain: “experience to date shows there is an opportunity to develop a coordinated, strategic approach to marine conservation with marine reserves operating alongside customary reserves and protocols”. In a broader sense, the creation of any taiapure and mataitai has cascading benefits for the wider EEZ fishery as an increase in diversity and biomass in one area will spread throughout the ecosystem. That said, there will be areas and fisheries that will deliver optimal benefits to the wider ecosystem and these should be identified.

The creation of new taiapure and mataitai will also help the wider MME both in terms of instantiating kaitiakitanga and by increasing Māori rangatiratanga over the marine estate through the application of tikanga and matuaranga. Certainly “the mataitai provisions in the customary regulations allow a greater expression of the tino rangatiratanga compared with the taiapure model, since tangata tiaki/kaitiaki have the ability to develop bylaws rather than simply to make recommendations to the Minister” (Memon et al. 2003, 214). However, while taiapure do not deliver the same rangatiratanga they do provide another benefit, which is that they involve consultation with the wider community. While this is often contentious, it can have positive outcomes.

Successful customary rights management will not only empower Māori rangatiratanga but can act as a means of advertising the power and effectiveness of Māori approaches to fisheries management. Both taiapure and mataitai are able to facilitate this. Memon et al.

(2003, 216) conclude that 'co-management' can produce 'learning communities' "who transform both the management system itself and the actions of those within it". They (Memon et al. 2003) also outline how Māori have worked in conjunction with the government and NIWA to study the sustainability of kaimoana in taiapure, with Māori acting as volunteer observers who provide the data needed to conduct the study. Projects like this not only help increase rangatiratanga and mātauranga but can also be used to illustrate how Māori customary rights can benefit conservation efforts in general. In turn, this will further develop and illustrate the similarities between the Māori approaches and EBM, showing how these can work in unison. In turn, the effective management of taiapure and mataitai will help create goodwill between Māori and non-Māori, which will further the chances of the creation of more taiapure and mataitai and will encourage the use of Māori approaches with regard to the conservation of the wider marine estate.

### Reciprocal exchange

Use of reciprocal exchange in the modern fisheries sector is highly constrained, though there are opportunities – though they must be conducted within legal parameters. At the highest level, iwi, pan-iwi collectives or even TOKM could facilitate some form of reciprocal exchange system – using catch from commercial quota rather than customary harvest to ensure legality – with other sectors of the Māori economy. This could see a renewal of the old systems of exchange that saw groups with an abundance of one resource trading with other groups for a resource they lacked. Those with highly productive farms could exchange meat for fish, those with an abundance of pounamu could exchange this for koura, those with access to taramea could swap it for scampi. While there is nothing to stop this form of exchange taking place at the moment, having some sort of facilitating entity – and a website – would help encourage barter-like exchanges between different groups as this provides a degree of trust and offers a platform within which this could occur. As outlined above, another component of this could be the use of koha as a means of facilitating exchange of quota between retiring and new fishers within an iwi. Again this stays within the commercial realm, avoiding the problems with the restrictions in the customary fishing legislation. As well as restoring reciprocal exchange this would also facilitate whānaungatanga.

### Models of subsidiarity

Because of the historical trends outlined, iwi have a large amount of power in the MME. However, this doesn't match with the traditional MME and there is a need for the creation of subsidiary actors and entities that more closely match those user rights, specifically hapū and whanau level operations. This section will outline three strategies of subsidiarity: the sharecropper; the development pool; and the fisher-owned ACE, as elaborated by Bodwitch (2017a).

#### *The "sharecropper" strategy*

One strategy for iwi-owned quota—a non-subsidised strategy—is sale of ACE (tonnage) derived from iwi owned quota (percentage of the TACC) in multi-species packages by auction. This strategy ensures the iwi obtains revenue for all species held in a quota package in order to cover the cost of annual quota levies that are part of the ITQ cost recovery system. In leasing, processors obtain rights to ACE for a multi-year period (usually a maximum of 5 years, as per fishery regulations). This mirrors the strategy employed by the Māori trust to lease

quota. The only stipulation from the iwi is that the processor must make the ACE available to iwi fishers, when they want it. This stipulation contradicts the ITQ system design to reduce overcapitalisation in the fishery because it introduces new boats to the fishery and takes ACE away from larger, arguably more efficient boats. This rarely happens, however, as Māori fishers are constrained by lack of gear to access most fisheries.

Even when Māori fishers have boats, gear, and fuel, fishers are reliant on the processor for both their fish access right and their access to revenue from fish sales. Processors take the cost of the ACE out of the price they pay the fisher for the fish. Fishers do not obtain ACE, which is necessary to avoid a deemed value fine, until after they land the fish to the processor. Reliant on processors for access to *iwi* ACE, fishers cannot negotiate prices between processors. This "sharecropper" relationship exemplifies structural poverty. Despite limited benefits conferred to fishers, this strategy is the main quota management strategy deployed by iwi especially when quota shares are uneconomical, because it displaces the risk of uncaught fish onto processors. However, for inshore fisheries, the benefits from this displaced risk are limited by fishers' lack of economic stability and potential to develop.

One of the "sharecropper" strategy's limitations for its participants is that they cannot sell fish to individuals directly because the processor controls their access to iwi ACE, unless they have the Licensed Fish Receiver certification required to process fish. Processor control of iwi ACE also restricts potential value-add to fish from direct fisher to market sales. If the fisher's catch is not bought at auction the same day they deliver it, the processor aggregates it with lower-value fish into fish blocks for export to grocery stores chains overseas. The processor participates in block export fish sales in order to move large amounts of fish quickly, but this export form obliterates any potential value added from the identity of the fisher or the fishing method. Fishers cannot accumulate capital, in the form of fish access rights (ACE and quota) needed to develop economically when processors control fish access rights.

### *The "development pool" strategy*

The second strategy for quota allocation involves iwi developing their own processing plant, in order to control access to profits from fish sales. This strategy is used for high-value, inshore species, including rock lobster. However, with regard to lobster, the lobster quota that iwi own is not sufficient to cover the cost of running the plant and is therefore uneconomical. To obtain fish to cover processing costs, the iwi may engage in one-for-one ACE arrangements with fishers. Under these arrangements, the iwi processor only sells ACE to those fishers with access to an equal amount of ACE, who land fish caught with their own ACE to the iwi processor. Both Māori and non-Māori processors use this one-for-one ACE strategy to secure access to fish from fisher-owned ACE. As with the previous strategy's "sharecropping" arrangement, one-for-one fishers are also required to sell fish back to the processor and cannot negotiate prices.

Māori fishers are rarely able to participate in one-for-one ACE arrangements. They rarely own their own quota or have access to capital to purchase third-party ACE. As a result, some iwi employ an alternative, subsidised strategy for ACE allocation to iwi fishers. Through a program called the "development pool," one iwi provides ACE to fishers without the one-for-one stipulation. The theoretical design behind the development pool is that, over time, iwi fishers

will accumulate enough profits to buy their own ACE. Fishers who obtain their own ACE will "graduate" from the development pool and use their ACE to participate in one-for-one fish-for-ACE arrangements with the iwi processor. Graduated fishers will benefit the iwi processing plant by providing the plant with access to additional fish. However, this mutual development strategy places the iwi processor in competition with iwi fishers. The development pool graduation goal requires both fishers and the iwi processor to purchase ACE from third party sources, in order to fulfill their parts of the one-for-one arrangement. Fishers cannot outbid the processor for ACE purchases, and fisher-processor collusion on bids violates anti-trust regulations. The development pool strategy operates through subsidies rather than capital accumulation. It brings benefits to the iwi not from increased revenue, but from the ability of the tribal seafood company to market itself, to iwi members and outside customers, as a company that supports indigenous fishers.

### *Fisher-owned Annual Catch Entitlement (ACE) strategy*

The third strategy for quota management is direct allocation of ACE to fishers. This strategy is primarily used for species with high cultural significance, but less well-established commercial markets. Included in this category is tuna. The iwi can directly allocate ACE to fishers to overcome the sharecropper-like situation found when fishers are mandated to land their catches to a particular processing plant. However, due to Licensed Fish Receiver certification requirements that increase the amount of capital an individual must access to become a processor, fishers' abilities to profit from fish sales remain limited by consolidation of the processing sector. The certification requirements essentially exclude small-scale fishers as they cannot develop a processing plant. Their potential to earn capital for investment into quota purchases, to establish long-term security in the fishery, is limited by Licensed Fish Receiver regulations that prevent them from selling their own fish.

Requirements that mandate Licensed Fish Receivers, the only legal fish sellers in New Zealand, to have access to ACE and food-grade certified processing facilities in order to legally sell fish, decrease the number of potential buyers for their fish. This consolidation restricts the fisher's ability to access capital (in the form of boats, gear, ACE) necessary to fish, despite their control of the iwi ACE. Consolidation in the processing sector can hurt fishers using this strategy as they are unable to seek out an alternative market for their fish unless they have a Licensed Fish Receiver certification. However, fish processed in traditional ways is not legal for commercial sale under the Licensed Fish Receiver food safety requirements." Consequently, food safety and building certification codes play a role in limiting new forms of fishers' economic development, even when they have access to ACE. The infrastructure costs of becoming a Licensed Fish Receiver are beyond the means of most Māori fishers.

### Integrated Māori-oriented value chain

While subsidiarity is a key strategy, this can also be complemented by the integration of the supply chain. A typical fishing supply chain might consist of: the resources needed for fishing, such as boats, fuel, nets, etc.; the fishing process itself; the processor; the exporter/importer, if different to the processor; the marketing of the product; and finally, sales and after-sales support (Simchi-Levi et al.1999). The 'value chain' concept encourages examining how to coordinate and integrate the supply chain in ways that add value. Saunders et al. (2016, 6)

state that "value is subjectively perceived by the customer" and identify four main sources of value:

- Product value—the product attributes themselves and the price/quality relationship for foods and commodities.
- Process value—the processes and practices used within the value chain to produce the product or food.
- Location value—the setting and atmosphere of where a product is purchased or consumed
- Emotional value—both the emotive response of consumption (pleasure, satisfaction, utility, etc.) and the emotive response to the 'story' associated with the product. (Saunders et al. 2016).

For the M-MME, a key part of an integrated value chain must be that it is Māori-oriented. That is, that as many components of the chain as possible are owned and staffed by Māori. This generates a multiplier effect, creating employment and retaining money within Māori communities. Memon and Kirk (2011, 112-3) outline how important "owning and operating all the necessary components of a seafood exporting sector" is for Māori. They then explain that the "fish-processing plants and owner-operator fishing vessels could be funded by iwi organisations, creating an institutional knowledge of the seafood industry within the community. Export profits could be used to benefit the local community, employing younger members and giving them the opportunity for social mobility and personal affluence" (Memon and Kirk 2011, 112-3). This could "help sustain international competitiveness through generating rapid innovation in products, processes, and services with better integrated industry and education facilities…. Quota income itself may not be sufficient… and the debts required to create the infrastructure necessary for these expansions may be difficult to service" (Memon and Kirk 2011, 112-3). While the current MME has seen iwi profit generally, this is a largely passive income and the M-MME would increase the number of Māori employed in the fishing sector, not just because to retain money within the Māori economy but also because it meets the demands of whanaungatanga and enhances mana.

The key is to ensure that the integration does not compromise the relative independence of hapū and whānau. The subsidiarity should not be compromised by any attempts at integration. In other words, it needs to be focused on ensuring that the benefits of integration can be achieved without compromising the traditional economic structures. The iwi needs to fulfil its traditional role. As Barr and Reid (2014, 226) explain, iwi "traditionally resorted to centralized political institutions and acted collectively to protect resources when under external threat. Given the current context, then, it would seem that some sort of balance between centralization (to protect resources) and decentralization (to encourage economic development at hapū and whānau levels) is required". Outlining how this needs to function, they (2014, 226) explain, that the "working partnership is described as being symbiotic in nature. In the context of this research, the term symbiosis means that the three main organizational levels of traditional (hapū and whānau) and contemporary [iwi] can work together in a way that enables sustainable economic development and autonomy at each level. For this symbiosis to be successful, each level needs to respect the existence of the others and to work cooperatively to achieve the mutually desired cultural goal of self-

determination". An integrated value chain is able to restore mana to the MME as it provides the necessary support to whānau and hapū business so they can operate in a way that is both sustainable and economic and also guided by the core kaupapa, tikanga and mātauranga.

The Ngāti Porou Holdings Company provides a good example of how the chain can be integrated. They have a focus on "control of supply [and] represents a collaborative model in practice".[10] Ngāti Porou Seafoods is the largest shareholder group within the Iwi Collective Partnership (ICP), the largest collective of Māori quota owners outside Māori interests in Sealord and Aotearoa Fisheries Ltd (AFL). This is a group of 14 North Island-based iwi that has pooled their deep sea, inshore, pelagic, highly migratory fish species and crayfish quota resources to improve returns and create opportunities for future growth and participation. As part of their chain integration the company process their own fish from their quota, and have developed a range of strategic relationships with processors, allowing them to participate at every step in the chain.

### Provenance, authenticity and traceability

These three concepts all connect together. Food provenance is the 'history' of the food and has three key areas of interest: where the food is from (geographic), how the food was produced and by whom (social), and the perceived cultural qualities and reputation of the food (cultural) (Reid and Rout 2016a). Authenticity is achieved when a product is viewed as 'authentic' by the consumer; it comes when the 'provenance' of the food is believed to be credible (Reid and Rout 2016a). Traceability is the ability for the consumer to trace a product through the entire chain with a high degree of trust (Moe 1998); it is the way that the provenance of the food is deemed to be authentic by the consumer. Provenance, authenticity and traceability are often key drivers and benefits of an integrated value chain.

Critically, these three concepts are all of central importance to Māori and in traditional terms can be understood through whakapapa. Ensuring provenance, authenticity and traceability are manifestations of the centrality of whakapapa. Furthermore, the M-MME can use these concepts to add value to their product whilst ensuring both social and natural capital are maintained and enhanced (Reid and Rout 2016a). The reason for this is that following kaupapa and using tikanga and mātauranga are assets, they provide rich provenance that brings all three aspects of this concept together. There is a depth of authenticity to these principles, practices and understandings. The key then is to ensure the M-MME not only conducts itself in this way but that this is communicated to the consumer in a verifiable manner. Traceability is key, as the consumer needs to view the provenance as authentic.

One example of a Māori provenance scheme that has strong traceability is the Ahika Kai project run by Ngāi Tahu. The Ahika Kai website provides consumers with a way to trace their food using a unique code. It also provides a "forum where consumers can come to know and connect with the producers and can gain an understanding of the provenance of the food, in all three dimensions, as well as the relationship between the producer and the food. (Reid and Rout 2016a, 432). The scheme "involves producers in the process of continually evolving, refining, and adopting best-practice through co-learning" and provides a means for consumers to directly sell and communicate with producers, reinforcing the core Māori

[1010] http://gisborneherald.co.nz/business/2207725-135/landing-growth-through-collectives-niche-markets

understanding of whakapapa and the importance of relationships (Reid and Rout 2016a, 433). The producers are able to add more value because they can sell directly to the consumer, not only cutting out middle men but also ensuring they can directly communicate the kaupapa, tikanga and mātauranga that went into the production.

Ahika Kai is already a part of the M-MME, with tītī and tuna sold online by producers who use a mix of traditional and contemporary production techniques as guided by kaupapa and mātauranga. The way the provenance is communicated is clear. The tītī web-page outlines the geographical and social provenance, explaining that the "tītī have been harvested by Kāi Tahu Māori families with affiliations to the infamous Tītī Islands, off the coast of New Zealand's southernmost region. Tītī harvesting practices have a strong cultural legacy for the people of this region, which includes the ancestral right to collect muttonbirds".[11] It goes on to provide more detail on these aspects of provenance, describing how "[h]arvest-management systems on each of the islands are determined by traditional guidelines (kaitiakitanga) to ensure the tītī remain plentiful for the next generation". The cultural provenance is also outlined, as the site explains the birds are a "delicacy prized by Māori all over the country. Muttonbirding is a seasonal, economic and cultural cornerstone of the area and for the whānau who have harvesting rights. The traditional uses of the birds have not changed much in a contemporary setting—they provide a rich food source, valuable trade item and are also prized for their feathers and down".

Moana New Zealand is another example of a current MME actor with a focus on provenance, authenticity and traceability that also reinforces the traditional MME. The company has conducted a "review of their fishing fleet and development of consumer-ready products that meets consumer demands for sustainability, traceability and accountability".[12] The connection between their provenance of technique and the Māori kauapapa is clear, they have invested in "Precision Seafood Harvesting fishing (PSH). It replaces traditional nets, instead containing fish inside a flexible PVC tubular receptacle with holes that allow undersized fish to swim out. As well as bringing the fish on-board largely undamaged, the method also allows for better targeting of specific species and better tracking of when and where the fish was caught".[13] Under their Tiaki brand, Moana New Zealand "use the tracking technology to give consumers information about when and where their fish was caught via a QR code".[14] Moana New Zealand have launched an app that will allow customers to "access information relating to where it was caught, how it was caught and information about the species. Hoki, alfonsino, snapper, gurnard, john dory, trevally and kingfish are all included".[15] Another example is their abalone, which has achieved "Aquaculture Stewardship Council (ASC) certification. ASC is an internationally recognised "gold standard" for responsible aquaculture production. This gives consumers the confidence that what they are purchasing has been raised at a responsible farm and is traceable throughout the entire chain".[16] The ASC certification focuses on sustainability but has also delivered savings to their business and enables them to sell the abalone as a premium product, showing how the traditional Māori

[11] https://www.ahikakai.co.nz/from-the-land/titi/
[12] https://www.terramoana.co.nz/moana-nz
[13] http://stoppress.co.nz/news/Fisheries-name-Moana-New-Zealand
[14] http://stoppress.co.nz/news/Fisheries-name-Moana-New-Zealand
[15] http://stoppress.co.nz/didge/sea-your-plate-new-technology-lets-fish-lovers-see-where-dinner-was-caught
[16] http://moana.co.nz/our-harvest/

kaupapa and tikanga combined with contemporary methods can increase income. Likewise, their oysters are fully traceable, with customers able to trace each product "back to time and date of harvest and specific oyster farm".[17]

## Branding and marketing

Branding is focused on creating an identity for a company that reflects its culture, values and mission and using the resultant 'brand' as a way to differentiate and accentuate the company and its product from the competition (Balmer 2001). A brand has three functions: "brand as identifier, brand as differentiator and brand as asset" (Roper and Parker 2006, 66). Brands are often associated with names, logos and slogans and it is all of those things but it is also the overarching identity of the business (Denning 2006). Marketing is the way that the brand is communicated to customers.

Just as provenance, authenticity and traceability resonate with traditional Māori views, the concept of branding also shares this resonance. Harmsworth and Tahi (2008, 3) explain, "Māori branding has always been an integral part of Māori culture". This resonance also comes from whakapapa, because differentiation and the ability to determine identity is key to understanding the importance of whakapapa. At a more practical level, every hapū and iwi has its own set of stories, symbols and designs that communicate their whakapapa and connection to tipuna and whenua, which can be used in branding and marketing.

An example of this is Ngāti Porou's premium smoked fish product called Ahia. As a key component of the brand, the name Ahia "denotes the creative—even divine—power of fire to stimulate the new, to temper, to transform. Māori used fire to make sea-going vessels, to make medicine, temper fish hooks and harden weapons as well as to cook food and transform it into something delicious that creates joy."Ahia" is a word drawn from expression "ahi a te ariki, which denotes the higher purpose of fire and means "fire of the high-born" or "fire of the gods"".[18] The Ahia website goes into great detail explaining their logo, breaking down the six key components and how they are important to Ngāti Porou, their whakapapa, tipuna and whenua.[19] The name and logo are powerful examples of branding that use Ngāti Porou's own identity. The connection between branding and marketing and provenance can be seen on the Ahia website as well, where they tell "the story of the people of Ngāti Porou, the descendants of Maui, the greatest fisherman of them all who fished up Aotearoa. It tells of their people, their passion and the lifestyle and culture of the rohe (area)" (Thomson 2016, 13-14).

Moana New Zealand is also another interesting example of branding and marketing, and their connection to provenance, authenticity and traceability. Moana New Zealand rebranded from Aotearoa Fisheries Limited to Moana New Zealand to better capture the company's Māori identity, with the name change signalling "a move from fisheries, which implies food processing, to premium seafood and direct connections with consumers".[20] They also created

[17] https://moana.co.nz/seafood/oyster/
[18] http://www.ahia.co.nz/our-story/
[19] http://www.npsl.co.nz/about/identity/
[20] http://stoppress.co.nz/news/Aotearoa- Fisheries-name-Moana-New-Zealand

a Tiaki brand, which has clear connections to Māori kaupapa. As noted above, Tiaki has a provenance and tracking component, and this is a powerful marketing tool that is accompanied by the smartphone application that allows customers to track their product.

## International Indigenous Models

Internationally, changes in the management and allocation of fisheries over a period of just 100 years has impacted negatively on indigenous peoples and their legal rights to fisheries. There has been a dramatic and sudden shift from exclusive indigenous fisheries that have existed in many cases for millennia (Sullivan 1987) to an assortment of fishery users that has resulted in major uncertainties and inequities for many indigenous groups across the world (Jones, 2006; Jones, Shepert and Sterritt 2004; Kennett, Tran, Heffeman and Streelnikow 2016; Pedersen 2012). The Whai Rawa, Whai Mana, Whai Oranga research project has potential to set the standard for transformational change, and offer a model for the consideration of the legal rights to fisheries of Indigenous peoples worldwide.

## First Nation Canadians and North American Indians

In 2004, many First Nations of British Columbia (BC) began litigation processes in relation to their title and legal rights to fisheries (Jones et al. 2004). The major issue in BC was and is First Nations economic access to fishery. At this time, few First Nations had embraced the Treaty process initiated as part of coloniser attempts to manage and allocate fisheries. A First Nations consultation process with communities at Kamloops, Prince Rupert, Smithers, Prince George, Fort Rupert, Nanaimo, and Chilliwack in 2004 not only highlighted economic and management marginalisation but also noted that for many First Nations there was also a lack of fish for food, social and ceremonial purposes, placing customary access to fisheries in serious jeopardy. The First Nations Panel on Fisheries articulated their vision and principles for management and allocation of fisheries for First Nations and for those who are not First Nations, and supplemented these with available and preferred options for management and allocation (Jones, Shepert and Sterritt 2004).

The aim of management and allocation is to provide guidelines for the equitable sharing of fisheries resources, collaboration, co-management (Fisheries and Oceans 2017) and maintaining healthy ecosystems as inherited from First Nations', Aboriginal/Indigenous traditions passed down through the generations over thousands of years. Pre-colonisation First Nations populations were much larger and fishing was much more intense, yet it was highly selective and carefully timed so that large numbers of fish could be caught whilst leaving large numbers able to spawn. Such practices ensured that fisheries were available for future generations. Not all First Nations communities practice in exactly the same way; much is dependent on the ecosystems, the locations, changes in ecosystems and seasons, and the community's relationship to the fishery—the physical, cultural and spiritual connection (Jones, Shepert and Sterritt 2004). However, the common element among almost all indigenous peoples is their knowledge and connections, both physical and spritual, to the natural world, and the strength of those relationships that have endured through millenia.

In Canada, the community stories around how relationships and rights are explained are acknowledged and recognised and currently legally protected under Section 35 of the Canadian Constitution Act 1982. The indigenous view of ecosystems is much broader than western notions, highlighting connections to the spiritual and physical environments, species, habitat and human elements at the same time—explained as a holistic interface with the fishery. While First Nation Canadians and North American Indians have agreed to an ecosystem approach to fisheries management the western approaches and science dismally fail to fully explain or predict the multiple and complex dynamics of ecosystems in modern times (i.e. the last 130 years). Link (2002, 18) suggests that ecosystems cannot technically be managed in a fisheries context but that fisheries can be managed in an ecosystem context—a vital distinction. The social, cultural and economic elements are more often than not left unexplained in a western context because of the varied and conflicting goals that come with it.

In the US the goal of ecosystem-based fisheries management is simply to "maintain ecosystem health and sustainability" (Link 2002; Dell'Apa, Fullerton, Schwing and Brady 2015). The problem then becomes one of defining what is the preferred state of health; ascertaining if this applies to all elements of the ecosystem; and, for indigenous peoples, determining whose principles and perspectives are applied. Sustainability is about taking only what is needed, in season, within boundaries, with least amount of impact on habitat, species, or environment, and ensuring the resource remains viable for future generations. There is a growing acknowledgement from sustainability researchers of the validity and common sense practices and knowledge of Indigenous peoples (Reid, Barr and Lambert 2013; Sullivan 1987), specifically the interconnections between people and place, and the spiritual element in daily lives and in the environment (Jackson 2013; Reid et al. 2013).

### Sámi, Norway

Evidence of Sámi coastal fishing and human habitation exists particularly around Finnmark County in the far north of Norway 10,000 to 11,000 years ago. Stories of Sámi fishing actitivity date back to Viking reports to King Alfred the Great and even unofficially prior to that time (Pedersen 2012). Fishers were known as fiskabonden (fishermen-farmer)—access to both land and sea resources was crucial to livelihood and culture, and Sámi fishermen's extensive knowledge and expertise of the sea and land environments were well acknowledged (Lätsch 2012, 62). However, from 1840 onwards Norwegian colonising practices of assimilation have prevailed and the rights of Indigenous Sámi and in particular coastal Sámi have disappeared and are yet to be reinstated. Norway has embraced ecosystem-based or approaches to fisheries management but with a focus on scale, productivity and economic viability, which means smaller traditional fishers like the coastal Sámi are ineligible to access quota and therefore invisible in fisheries management and marginalised in economic benefit (Pedersen 2012; Lätsch 2012). At the same time the Norwegian government advocates for ecosystem-based approaches to:

1. avoid degradation of ecosystems
2. minimise the risk of irreversible change to natural assemblages of species and ecosystem processes
3. obtain and maintain long-term socioeconomic benefits without compromising the ecosystem, and

4. generate knowledge of ecosystem processes sufficient to understand the likely consequences of human actions (Gullestada, Abotnesa, Bakkea, Skern-Mauritzenb, Nedreaasb and Søvikb 2017, 104).

However, the potential added value that Indigenous knowledge brings to management of the fisheries is not included and barely recognised. Currently, in building a united voice in their homelands Sámi look to other Indigenous groups and international agencies for examples of co-management of coastal, rivers and land—and best practice in a range of rights based issues.

### The Panel Report—a three-tiered management model

The Panel Report (Jones et al. 2004; Jones 2006) highlighted that the principles and allocation options for both First Nations and non-first Nations in Canada and Northwest America be agreed to and put in place first, otherwise re-engaging with the management model proposed in the 1990s by First Nations, and which became the preferred option in 2004, would not work (the three-tiered approach). There needed to be commitment and/or incentives for First Nation access to and participation in commercial fisheries. The principles, allocation and management options are summarised in Table 1 below.

Table 1 – Summary of Allocation and Management Options and Alignment to Principles (Sourced from *Our Place at the Table. First Nations in the B.C. Fishery*, Jones, Shepert and Sterritt 2004, 2)

| Principles | Allocation Options | Management Options |
|---|---|---|
| • an ecosystem approach to management,<br>• conservation as a priority, including a precautionary approach to management,<br>• sustainability as measured by the availability of fisheries resources for future generations,<br>• shared responsibilities, including a primary responsibility for First Nations, Federal and Provincial governments, accountability of fisheries managers, and<br>• diverse benefits and approaches that would accommodate the varied needs of First Nations, rural communities and others. | Based on premises:<br>• That aquatic species and their habitat are held in trust by government and not privately owned.<br>• That there is a responsibility to treat aquatic species and their habitat with respect, and<br>• That there needs to be clear sharing arrangements<br>Allocation objectives in order of priority:<br>1. Healthy species, habitats and ecosystems;<br>2. First Nations' aboriginal and treaty rights;<br>3. Commercial and recreational needs | Re-engaging with an earlier aboriginal proposal of a 3 tier process, where<br>**Tier 1** - First Nation dialogue and relationships with other First Nations only<br>**Tier 2** - First Nation dialogue with Federal Government only<br>**Tier 3** - First Nations, Federal and Provincial Governments, and third parties, dialogue. |

For the model to work most effectively the panel identified that the Tier 1 process would need to be fully functioning with First Nations committed to effective and ongoing communication amongst themselves and establishing strong working relationships with each other. For the Majority of First Nation communities in Canada and Northwest Indian communities there has been some benefit from mid-1850s treaties that confirm rights to fish. However, the B.C. First Nations have not had that luxury, and issues around the numbers of tribes and communities involved—approximately 96 in B.C. compared to 19 in the Northwest Indian Fisheries Commission—is of concern. The Tier 1 process for B.C. Fraser River First Nations people needs a higher investment of time and understanding. Even so many tribes/First Nations have opted to litigate because of the lengthy treaty process.

The Report identified that the three-tiered management model was working well in other aboriginal settings such as Northwest Indian Fisheries in Washington State, the Nisga'a Final Agreement, and the West Coast Vancouver Island Aquatic Management Board. These organisations have been able to leverage off each other on common issues and present a united position on allocation and management. The benefits of economies of scale here include effective and more efficient communications. Furthermore, for all Washington State sectors there was affirmation of tribal rights to 50 percent allocation of fishery as a result of the Boldt decision in 1974 where the Judge "*ruled that tribes had reserved the right to harvest half of the harvestable salmon and steelhead in western Washington*", which was later upheld by the supreme court in 1979 (Jones 2006, 4). The Supreme court required tribal and state representatives and staff to forge ahead and develop fisheries management models to ensure there were "*harvest opportunities for Indians and non-Indians".* The Northwest Indian Fisheries Commission was established in 1974 and provides the forum through which its 20 member tribal grouping can collectively and effectively co-manage their fisheries. Importantly, working together means that tribes can bring unified tribal positions to federal and state agencies. At the same time, individual member tribes maintain their own sovereignty whilst participating in cooperative management programmes. They co-manage and conduct most of their own fisheries activities such as issuing licenses for their fishers, taxing tribal catches, and maintaining tribal fleets if they have these. Tribes are likely to share expertise and personnel such as scientists, fish biologists and technicians who are funded by the Bureau for Indian Affairs (Jones 2006; Jones et al. 2004).

There are further protections in legislation that support the functions for commercial, recreational and Aboriginal (CRA) fisheries in Canada that take account of the complex networks and environmental interactions of ecosystems especially in relation to those support species that have a direct or indirect influence on commercial, recreational and Aboriginal fisheries (Kenchington, Duplisea, Curtis, Rice, Bundy, Koen-Alonso and Doka 2013). Different types of Salmon and Trout have been identified to have *iconic status because of their cultural importance to indigenous peoples* of the Northwest American coast and Canada (McKechnie and Moss 2016, p 471) and despite reductions in population they remain the most widely accepted food fish among indigenous groups. Salmon and Trout though have not been the only fish that have contributed to long term economic and cultural practices of Indigenous peoples over millennia; many other species of fish have been found to have been just as important to Indigenous groups (McKechnie and Moss 2016).

## Indigenous rights in Australia

In the South Pacific, a landmark (Mabo) High Court decision in 1992 resulted in widespread recognition of Indigenous rights in Australia. Another case in 1998 (The Croker Island) verified the existence of native title rights to the foreshore and marine environment (Campbell 1999, 1). It was also identified that there was and remains a close relationship of Aboriginal and Torres Strait Islanders with the sea, whereby sea holdings were and continue to be described as similar to land holdings, suggesting that Aboriginal notions of the sea, seabed, and inhabitants of the sea also come into Native Land Title debate. Sullivan (1987) emphasises that Aboriginal relationships, knowledge systems, culture and customary marine activities are noted to be 50,000 years old. Therefore, summarising 50,000 years of knowledge and practices remains problematic. However, for the Merriam peoples (Murray Island) four distinct principles have been identified that formalise indigenous cultural knowledge and practices with regard to both sea and land holdings:

1. sea properties are inherited as a sacred trust, usually
2. through elder males who nurture the relationships and responsibilities to and with other kin groups;
3. sea holdings form an interrelated whole with a living habitat as a part of culture rather than nature, and
4. as such, the economic and spiritual elements are intertwined and inseparable from each other which means that both the sea and land holdings are not just regarded as a resource only (Sharp 1997, 29, cited in Campbell 1999).

The stories, rituals, ceremonies, and other cultural activities tell of indigenous traditional owner investment in the sea and their participation in trade and exchange with other kin groups and external non-kin groups. There was an element of sophistication as well, in terms of utilising sea country to expedite travel along coastlines and neighbouring islands advancing notions that Aboriginal and Torres Strait Islander participated in exploration (Sharp, 1997 cited in Campbell, 1999; Kennett et al. 2016; Hawkins, 2004). Research shows that certain species of fish and shell fish have been part of Aboriginal and Torres Strait Islander diet for 37,000 years (Sullivan 1987). However, Kennett et al (2016) have determined that—as with the Sámi—Australian legislation undermines Aboriginal cultural and commercial access to fisheries and therefore the Aboriginal groups are utilising the Native Title Act 1993 to explore their rights and interests to marine resources. The participation rate of indigenous fishers in Australia was 37,000 or 91% in 2000 (Henry & Lyle 2003) suggesting that there is a strong interest in marine resources for Aboriginal people.

Since 2009 cultural fisheries have been recognised as distinct from commercial fisheries, which has worked to exempt Aboriginal people from paying recreational fishing fees and being prosecuted for accessing excess traditional resources. Kennett et al. (2016) discuss a cultural fishery model that has potential to be utilised along the south coast of NSW and on other coastlines for traditional owners. The model takes account of the unique circumstances of each region and the values and interests of each Aboriginal community. This includes the roles and responsibilities of individuals in the communities because in some communities there are different rights for different members of the communities. These members often dictate what fish and other marine resources can be taken; when they can be taken; the quantity; and how these fish stocks can be shared or traded (Kennett et al. 2016, 5). Further research is required to explore cultural and livelihood values, highlight the significance of

customary fishing rights for Aboriginal peoples, and to explore ways in which Aboriginal people can have their economic aspirations fulfilled and their inclusion in fisheries management in Australia.

## Conclusions

For the Whai Rawa, Whai Mana, Whai Oranga Project to help the MME to grow economically in a culturally-matched manner that is sustainable requires insights into the Māori worldview and its emergent operating principles, the effects of the colonial narrative, the traditional Māori economy and property rights regime, the contemporary New Zealand and Māori marine economies – including their value chains, branding and marketing – as well as an understanding of the current western-oriented sustainability efforts. A 'blue Māori economy' can only come to fruition if it is built on a comprehensive understanding of these diverse factors. It is through weaving all these elements together and using them as a framework to design, develop, test and deploy innovations that are able to deliver on the delicately balanced outputs of the project: restoring and growing mauri; the intergenerational transfer of wealth; supporting Māori identity; and flourishing of whānau, hapū and iwi well-being.

As this report has shown, Māori possess a worldview that highlights the connectedness between human communities and marine ecosystems, with the primacy of whakapapa at the core of this understanding, and does not separate environmental, economic, social, and spiritual domains. In fact, the Māori worldview and approach to managing the marine ecosystem and economy provides a number of commercial advantages to Māori businesses if they harness it appropriately. It also provides an ethical foundation for how communities should relate to fisheries and the ocean based upon core operating principles and practices, or kaupapa and tikanga, particularly: kaitiakitanga; whānaungatanga; manaakitanga; take-utu-ea; tapu; and noa. Taken as a whole, kaupapa and tikanga provide a near-comprehensive guide to decision-making and action-taking in the MME. Working in dynamic flow with kaupapa and tikanga is mātauranga Māori, the accumulated wisdom, knowledge and insight that helps inform the application of the values and principles and in turn reinforces them.

Prior to colonisation these principles, practices and knowledge provided a strong institutional framework for guiding the relationship between Māori and Tangaroa, including the following:

- A functional ecology of property rights for managing access to marine resources;
- Governance structures for the management of marine ecosystems and the enforcement of property rights; and
- Knowledge of ecological processes for the sustainable management of fisheries.

The traditional MME was a well constituted whole that saw the economics of fishing embedded in the wider social, cultural and political institutions, where the ocean was understood as both a resource to be used and kin to be cared for. From 1840 onwards Māori institutions for managing and governing marine ecosystems ceased to operate. The settler government failed to enforce the existing Māori structures, leaving the marine ecosystem largely unregulated. This led to a 'tragedy of the commons' situation, with numerous key fish stocks plummeting.

In response the Crown attempted to introduce ITQ regulation to manage fisheries in the 1980s; however, given that the Crown had not purchased fisheries from hapū and iwi the resource was still in Native Title and therefore owned by Māori. Following a settlement between the Crown and Māori the ITQ system was introduced. Māori emerged with secure commercial fishing quota, customary rights to fisheries, and coastal governance responsibilities.

The settlement, however, fragmented quota across many iwi means that few iwi hold enough quota to operate stand-alone commercial fishing businesses. Problematically, ownership of quota was consolidated at the iwi scale alienating whānau and hapū with whom property rights to fisheries historically rested; while the creation of customary rights limited the ability of whānau and hapū to trade fish as they had done throughout history. In an attempt to address the political tensions emerging from whānau and hapū alienation, iwi such as Ngāi Tahu are experimenting with devolving control of fisheries to whānau and hapū.

The ITQ system, and underpinning marine governance regime, has struggled to ensure the sustainable management of marine ecosystems which is unsurprising as its main focus was privatizing the rights rather than making the operations sustainable. It is the view of this report that the challenges posed by balancing profit and sustainability are too complex for markets, local governments, iwi and communities to manage independently. While integrated approaches such as EBM and the value metrics of ES are now being proposed by researchers and policy-makers as tools for marine governance they too have their flaws. Furthermore, while there is some synergy between EBM approaches and mātauranga Māori, there is significant tension between ES and Māori ethical considerations and this is problematic as ES helps underpin EBM.

To create a blue Māori economy requires the MME to use the past to guide the future. At the systemic level any institutional changes that can be made by local and national government, iwi, corporations or any other influential entity that enables the MME to operate in a manner that has resonance with traditional Māori property rights, means of exchange and knowledge systems would encourage a sustainable yet profitable fishery sector. Of course, this would require what might be term 'contextual calibration' as the traditional institutions were not

specifically suited for the contemporary climate. While many changes lie beyond the scope of this project, there are a number of areas where policy conditions are right for change and which might themselves lead to greater systemic change. For example, Māori can use the existing taiapure and mataitai regulations as ways of increasing diversity and biomass across the whole EEZ by using them as 'strategic reserves'. In turn, the success of these reserves will help further policy changes that favour traditional Māori institutions.

One step down from systemic changes, iwi have the current capacity to effect positive change in a way that is resonant with the traditional MME. As outlined in the report there are three strategies of subsidiarity that would see hapū and whānau groups assuming the level of autonomy and control they had over their fisheries in the traditional period. By implementing the sharecropper, development pool or fisher-owned ACE strategy iwi could provide the means by which hapū and whānau businesses could operate in a sustainable and profitable manner within the wider New Zealand marine economy.

It is also concluded that for specific fishery companies and operations, Māori approaches to managing marine ecosystems, and relating to Tangaroa, create a strong indigenous branding narrative that would have strong appeal to premium customers willing to pay for products with environmental and social responsibility attributes. Furthermore, given that Māori own significant components of marine product supply chains, they have the ability to communicate these attributes from the fishing boat to the consumer. There are good examples of Māori successfully doing this already and this model can be used to further strengthen the MME.

Finally, the report concludes that indigenous people in general share a common approach to their relationships with the marine ecosystems. These means that the ultimate outputs of the Whai Rawa, Whai Mana, Whai Oranga Project can be of use to these different indigenous groups. However, indigenous people in different parts of the globe each deal with different colonial government regimes, which require different approaches and responses to context.

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