

March 2022

Te Ara Paerangi - Future Pathways Green Paper submission from Te Pūtahitanga collective of Māori scientists and researchers

A TIRITI-BASED RESEARCH, SCIENCE AND INNOVATION (RSI) SYSTEM

INTRODUCTION

Te Pūtahitanga - a nationwide collective of Māori scientists and researchers - welcomes the opportunity to respond to Te Ara Paerangi - Future Pathways Green Paper.¹ We support the Crown's initiative to bring the research, science and innovation (RSI) sector together to explore future possibilities, and agree that sector reform is needed to progress the economic, environmental, social, and cultural wellbeing of Aotearoa. We are excited by the possibilities of a sector that is Tiriti-based, equitable by design, and underpinned by Western and Māori knowledge systems and modes of innovation. We see an important opportunity to collectively re-imagine, design, and implement alternatives to existing structures, frameworks, and processes.

Our collective includes Māori scientists and researchers working in universities, Crown Research Institutes (CRIs), Te Pūkenga, Independent Research Organisations, Wānanga, businesses, and Not For Profits, across communities and within diverse Māori entities. We encompass all career stages, from senior RSI leaders and managers, to early career researchers (ECRs). Many of us have prior experience of collaboration to progress Māori aspirations for RSI and have deep experience of what works for our communities. **Our starting position is that te Tiriti o Waitangi should be at the heart of an RSI system that affirms, values, and protects mātauranga Māori.** Recent collaborations include the Rauika Māngai hui on Vision Mātauranga in 2018,² the accelerating Māori in STEAM hui in 2019,³ and the production of *Te Pūtahitanga: A Tiriti led science-policy approach for Aotearoa New Zealand*,⁴ which is a keystone reference document in Te Ara Paerangi.

We came together for two online wānanga on 16 December 2021 and 14 February 2022 to shape a collective response to Te Ara Paerangi. A list of those who participated in our wānanga and who are part of this submission are listed in Appendix 1.

¹ Ministry of Business, Innovation & Employment (2021). *Te Ara Paerangi - Future Pathways Green Paper*.

² Rauika Māngai (2020). *A guide to Vision Mātauranga. Lessons from Māori voices in the New Zealand science sector*. Retrieved from http://www.maramatanga.co.nz/sites/default/files/Rauika%20Ma%CC%84ngai_A%20Guide%20to%20Vision%20Ma%CC%84tauranga_FINAL.pdf

³ Retrieved from: https://www.pmcsa.ac.nz/files/2020/02/Notes-of-the-Accelerating-M%C4%81ori-in-STEAM-Hui_11-December-2019-Rutherford-House_Notes.pdf

⁴ Kukutai, McIntosh, Durie et al. (2021). *Te Pūtahitanga: A Tiriti led science-policy approach for Aotearoa New Zealand*. Auckland: Ngā Pae o te Māramatanga. Retrieved from <http://www.maramatanga.co.nz/publication/te-p-tahitanga-tiriti-led-science-policy-approach-aotearoa-new-zealand>

Our galvanising force is a collective ambition to realise best research, science and innovation outcomes for whānau, hapū, iwi, and diverse Māori communities across Aotearoa.

The RSI sector, in its current configuration, is failing to deliver these outcomes. Our view is that to genuinely deliver for Māori, and for Aotearoa, RSI reform must place Māori aspirations for transformation at the centre of all decision-making and structural changes. The timing is right for this to occur, given recent legislative and policy initiatives giving broader effect to te Tiriti,⁵ the increasing emphasis on mātauranga Māori, and government requirements that the RSI sector should deliver wellbeing outcomes for *all* New Zealanders.

It is not our intention here to linger on system failures. There already exists a large body of evidence documenting the Crown's failures regarding te Tiriti and the need for clearly defined partnership. Nevertheless it is important to acknowledge key impediments to our collective aspirations in the context of RSI sector reform.

One major barrier is inequitable investment. Even without transparent, regular, and robust monitoring, we know that the return to Māori from the substantial public funding investment in RSI (about \$1.8 B per annum)⁶ is poor. Partly this reflects a lack of authoritative power to decide how and where money is spent. The MBIE Science Board, for example, has substantial oversight as the statutory body responsible for making independent investment decisions for the Endeavour Fund and National Science Challenges. It has seven members but just one is Māori. There are currently no Māori Vice-Chancellors, or Deputy Vice-Chancellors Research. These examples are illustrative of a sector-wide lack of Māori leadership and participation in investment decision-making.

For MBIE to fulfil its kāwanatanga obligations under te Tiriti requires co-governance⁷ within existing structures, as well as a fully resourced, independent space in the sector for RSI that is Māori-led and governed. Over the past two decades there have been ongoing calls for independent Māori RSI entities that sit outside of current Tertiary Education Commission funding, and a dedicated Māori science fund.⁸ Currently there are few Māori RSI funding mechanisms, and the level of resource allocated is meagre, and often also accessible to tauwiwi (non-Māori). Yet we know from examples such as Pūhoro STEM Academy that Māori-led spaces of innovation can be successful and scalable when enabling conditions and structures are in place.⁹

Mātauranga Māori is Aotearoa's unique Indigenous knowledge system and one of the few features of our RSI system that genuinely sets us apart. But the Crown's approach to research and development lacks a coherent sector-wide approach to valuing, resourcing,

⁵ For a list of examples, see Table 1 in Te Pūtahitanga.

⁶ Ministry of Business, Innovation & Employment (2021). *The Research, Science and Innovation Report - 2021, Performance of the New Zealand RSI system*.

⁷ For numerous examples of different kinds of co-governance arrangements within the context of resource management, see, Office of the Auditor-General (2016). *Principles for effectively co-governing natural resources*. Wellington: Office of the Auditor-General.

⁸ Smith, L., Pihama, L. & Tiakiwai, S. National Māori research institute. Discussion paper to Hon. Te Ururoa Flavell and Hon. Steven Joyce.

⁹ Whitehead, J. (2019). *Measuring the economic impact of the Pūhoro STEM Academy - Extension to tertiary education*. Lincoln: The AgriBusiness Group.

and protecting mātauranga (and associated taonga including data resources, reo, and indigenous biodiversity), let alone generating benefits for the communities from whom it derives. Mātauranga Māori, and Indigenous knowledge more broadly, can, and do, drive innovative ways of responding to the monumental challenges we face as a global community.¹⁰ Under Kaupapa Māori processes and methodologies it is clearly stated that those endeavours must be defined by Māori, led by Māori, and be informed by tikanga and mātauranga Māori.¹¹ Such developments and initiatives must be appropriately supported by the Crown and its agencies in order to fulfil a meaningful and enduring partnership.

Workforce issues are critical, with the Māori RSI workforce being both disproportionately small and stretched. On top of systemic racism, pay inequities,¹² and other well-documented barriers to advancement,¹³ Māori scientists often pull a 'cultural double shift', performing duties as cultural navigators and connectors, in addition to their research and teaching.¹⁴ There is also a paucity of Māori in senior RSI leadership within universities, CRIs, and key public service agencies including MBIE. This reflects both a lack of commitment to enacting Tiriti-based leadership and accepting different modes of Māori leadership, rather than a dearth of suitably Māori candidates. Sector reform requires Māori to be visible and supported at all levels, from governance and management to ECRs and PhDs.

The remainder of this submission sets out our overarching vision, provides key recommendations for action, and responds to specific questions raised in the Green Paper. Moving forward, our collective wishes to remain engaged in the ongoing process of developing RSI sector reform, including the White Paper, and are able to provide an oral submission.

We note here our support for submissions to Te Ara Paerangi made by other Māori and Pacific rōpū including Rauika Māngai, Te Tira Whakamātaki, Wakatū Incorporation, Māori Strategy, Partnerships and Enterprise, and The Māori and Tagata o le Moana ECR forum of Te Apārangi. We also acknowledge the support to undertake this submission provided by the wonderful team at Aatea Solutions – ngā mihi nunui ki a koutou.

Our Overarching Vision

We envisage that in 10 years' time Māori are equal partners in an RSI sector that is Tiriti-based, and that Māori success is embedded at all levels, both in mainstream institutions and in independent Māori-led institutions. We envisage a sector where:

¹⁰ Awatere, S., King, D., Reid, J., et al. *He huringa āhuarangi, he huringa ao: a changing climate, a changing world*. Auckland: Ngā Pae o Te Māramatanga and Manaaki Whenua.

¹¹ Pihama, L., Cram, F., & Walker, S. (2002). Creating methodological space: A literature review of Kaupapa Māori research. *Canadian Journal of Native Education*, 26(1), 30–43.

¹² McAllister, T., Kokaua, J., Naepi, S., Kidman, J., & Theodore, R. (2020). Glass ceilings in New Zealand universities: Inequities in Māori and Pacific promotions and earnings. *MAI Journal*, 9(3), 272–285.

¹³ McAllister, T., Kidman, J., Rowley, O. & Theodore, R. (2019). Why isn't my professor Māori? A snapshot of the academic workforce in New Zealand universities. *MAI Journal*, 8(2), 235–249; McAllister, T., Naepi, S., Wilson, E., Hikuroa, D. & Walker, L. (2020). Under-represented and overlooked: Māori and Pasifika scientists in Aotearoa New Zealand's universities and Crown Research Institutes. *Journal of the Royal Society of New Zealand*.

¹⁴ Haar, J. & Martin, W. (2020). He aronga takirua: Cultural double shift of Māori scientists. *Human Relations*. <https://doi.org/10.1177/00187267211003955>

- mātauranga Māori is affirmed, valued and protected in ways that are Māori determined and Crown resourced.
- Kaupapa Māori is embedded across all parts of the sector, is affirmed, and fully supported
- iwi, hapū, whānau, hāpori (communities), and Māori business and enterprise are highly engaged in RSI and share in the benefits
- Māori and Pacific RSI potential is no longer impeded by systemic racism and other forms of discrimination
- the sector embraces and benefits from diverse forms of Māori RSI leadership
- Māori success underpins Aotearoa success.

To realise this vision, we recommend the following actions:

Within 1 year

- Establish a co-governed national taskforce to direct the RSI reform agenda. The work of the taskforce will be directed by a series of regional hui culminating in a RSI Hui Taumata that brings together Te Ao Māori Tiriti partners with Māori RSI leaders, hāpori, and business leadership to codesign the RSI reforms.

Within 2 years

- Implement co-governance of key entities within the RSI sector (including MBIE Science Board, universities, CRIs).¹⁵ This should leverage the knowledge and evaluation evidence of what has worked in other co-governance initiatives (e.g., Te Papa, National Science Challenges, resource management).
- Ringfence funding for an independent Māori RSI entity and appointment of a transitional national Māori body to oversee its establishment.
- Develop and implement Tiriti criteria for RSI funding and Tiriti outcomes for all publicly-funded RSI. The ability to track progress should be enabled in systems such as the National Research Information System (NRIS).
- Design Tiriti-based RSI workforce development for all the sectors with measurable outcomes for mātauranga Māori capacity and capability.

Within 5 years

- Establish and resource place-based RSI hubs that have the Māori capacity to identify Māori RSI priorities within each rohe, connect research to local decision-making, champion mātauranga-driven innovation, and protect mana whenua intellectual and cultural property arising from RSI. Investment should be right-sized to ensure iwi, hapū, whānau and hāpori are able to participate fully and safely in RSI, and have the ability to create fit-for-purpose infrastructure (e.g., federated data systems).
- Change investment mechanisms to enable Māori entities and research streams to receive half of the research funding. These could be situated in existing institutions or independent Māori-led entities.

¹⁵ We acknowledge that, in some instances, this will require legislative change.

1. RESEARCH PRIORITIES

1. Ngā kōwhiringa hoahoa Whakaarotau Matua

Priorities design

What principles could be used to determine the scope and focus of national research Priorities?

To date Māori have not had the power nor resources to meaningfully influence, let alone determine, sector priorities for research. Our epistemologies and world views have been largely excluded or marginalised. The current approach to identifying priority issues centres Western values, principles, and processes as natural, normal, and universal. They are not. Nor have they resulted in RSI that has significantly benefited Māori, or indeed large parts of Aotearoa. We offer and expand on the following te ao Māori principles as a starting point for determining the scope and focus of national research priorities as part of sector reform.

Rangatiratanga. In a reformed RSI system there must be zero tolerance for tangata Tiriti determining research priorities for Māori.¹⁶ It is for Māori to determine our own diverse Māori research agendas and priorities, guided by our own tikanga, and using processes that we know work with our communities. National research priorities should give force to Māori research priorities, not as an afterthought but as an intentional part of the priority-setting process. At the same time, the scoping and framing of national priorities identified from Crown or tangata Tiriti processes need to be undertaken within a partnership model. Māori collectives have an enduring interest in Aotearoa being a flourishing whenua and moana. It is an 'and and' rather than an 'either or' approach.

Whakapūmautia te oranga. Publically funded RSI must advance the economic, environmental, social and cultural wellbeing of *all* of Aotearoa, and there should be strong accountability mechanisms to ensure that research outcomes (cf. outputs) maintain that focus throughout. Whakapūmautia te oranga also requires a commitment to dismantling the systemic and intersecting inequities that continue to deny Māori wellbeing.

Whakamanatia te mātauranga. Mātauranga Māori is integral to all national research Priorities. Only Māori can determine how the mātauranga continuum is extended and protected. WAI 262 reaffirmed that mātauranga Māori is a taonga; WAI 2522 confirms the Crown has a duty to protect mātauranga Māori.

Mokopunatanga. National research priorities should have an explicit intergenerational lens. This is more than simply having a long-term commitment to a particular challenge or issue that extends beyond current funding or political cycles. It means that our collective focus, as scientists, researchers and innovators, should be on creating the conditions that will enable our grandchildren, their grandchildren, and their environs to thrive. This mokopuna-centred thinking is urgently needed across the sector, but already informs decision-making in te ao Māori, including in commercial contexts.¹⁷ A shared intergenerational focus also has the potential to provide coherence across different priority settings, and to leverage synergies that might otherwise be missed.

¹⁶ A 'by Māori for Māori' approach is inclusive of kaimahi who are tangata Tiriti - the crucial point is that it is Māori-led and generative of benefits for Māori.

¹⁷ See, for example, Wakatū Incorporation's intergenerational strategy Te Pae Tawhiti.
<https://www.wakatū.org/te-pae-tawhiti>

2. Ngā kōwhiringa hoahoa mō te tukanga tautuhi whakaarotau

Priority-setting process

What principles should guide a national research Priority-setting process?

How can the process best give effect to Te Tiriti?

We believe the following principles should guide the process of setting national research Priorities within a Tiriti-based RSI system. Our approach inverts the prevailing top-down process of priority-setting that privileges particular kinds of RSI experts and knowledge. Our aim is to provide a more intentional and empowered space for te ao Māori to articulate priorities, both as RSI producers and users, and the kinds of research that we need. Māori RSI leadership, mātauranga Māori practitioners and tohunga, Māori business and enterprise, hapū and iwi (including the National Iwi Chairs Forum/NICF) and other hāpori, require time and resources to develop a process for priority setting for Māori, *before* engaging with the Crown to form national research priorities. The process of developing the White Paper needs to allow sufficient time for this engagement to take place. The MBIE-led consultation for Te Ara Paerangi should be viewed as the beginning, not the endpoint, for engagement.

Ōritenga. In a Tiriti-based system, Māori and the Crown should share decision-making in the setting of national research priorities as part of a 'mana ōrite' (equal authority) arrangement. In reality, mana ōrite is rarely achieved because insufficient attention, and resource, is directed at addressing structural inequities. For the priority-setting process to be genuinely Tiriti-based requires the prioritising of Māori participation, leadership and aspirations. In our experience this is essential for counterbalancing the deeply embedded, but often invisible and normalised, power inequities. Priority-setting should not be constrained to the identification of research challenges or issues, but also include key governance settings, core functions, operational priorities, distribution of resourcing, protection of mātauranga, determination of workforce priorities and key equitable outcomes frameworks.

He tangata, he tangata. People and communities are at the heart of the RSI system - publicly funded scientists and researchers are in service of the collective good. Currently the RSI system is heavily weighted towards delivering research that the Crown wants, guided by experts who are not Māori, and who have little idea about Māori lifeworlds or aspirations. Research priorities need to be grown from within Māori communities - as such there is a need to ensure that there are multiple fora to support that across all sectors including those who may not pro-actively participate in the current system. From experience we know that iwi, hapū and Māori communities are best placed to identify their own challenges and solutions, as RSI producers and users. Clear processes are needed to ensure Māori are able to direct priority-setting, not just be 'consulted' - entities such as the NICF already have a structure for their identified focus areas. The process of setting national research priorities should be as open and inclusive as possible to allow Māori priorities to emerge and cohere, unencumbered by predetermined Crown agendas. Both the process of engaging in priority-setting, and the subsequent decisions that are made, need to be transparent and inclusive, and allow for both partnered and autonomous Māori approaches. A co-governed national taskforce should be established to direct the RSI reform agenda and their work should be directed by the regional and national hui.

He rourou. Sector reform should shift the current system from one that is largely extractive and deficit-focused (when it comes to Māori) to one that is generative and strengths-based. The settling of historic Tiriti claims may mean that an increasing number of iwi and hapū have some resource and decision making capacity, but they are not resourced to contribute in the way the Crown expects of them. Many mana whenua are already subsidising the RSI

and national agenda considerably through expectations and unbending systems that require their input - a clear example being environmental regulatory processes. A RSI system that is genuinely community-serving should not continue to extract what it wants at the expense of Māori and Māori communities.

3. Ngā kōwhiringa hoahoa whakahaere matua

Operationalising Priorities

How should the strategy for each national research Priority be set and how do we operationalise them?

A Tiriti-based framework for setting national research priorities should flow through to governance and operating structures and processes. Each priority will require independent governance. Priorities that are Māori determined need to be Māori-governed. Priorities that are co-determined should be co-governed. Some of the National Science Challenges provide excellent examples of governance settings that aligns to Māori-Crown relationship aspirations and honouring te Tiriti. We acknowledge the formidable leadership and generosity of Rauika Māngai in bringing the NSCs to those spaces.

Given the mission-led nature of priorities, it is crucial that governance appointment processes are not constrained to recruit from a pool of 'usual suspects'. Diversity of experience (including lived experience), skills and thinking should be actively sought - this may require engaging specialists with broad connections to diverse Māori, Pacific, migrant and kaupapa-focussed communities. Priorities that are critical for the wellbeing of specific regions should actively seek out opportunities to involve mana whenua and regional representatives.

It is crucial that the notion of 'host' be expanded to include entities beyond universities and CRIs. In a reformed RSI sector, we should be able to see national research priorities sitting with a Māori science entity, mātauranga commission, Independent Research Organisation, Wānanga, or iwi research institute. Early-stage mapping of capacity, capability, and infrastructure gaps will enable strategic investment to strengthen the foundations for success. This may entail some degree of risk but, without this, the sector will be locked into a cycle of funding the same institutions - some of which have a lacklustre track record of success with and for Māori. Default to the status quo also misses opportunities to test and scale different ways of doing mission-led research that are globally innovative. Having the right digital and data infrastructure will be critical - we address this in more detail in question 17.

To drive towards the long-term transformation envisaged in the Green Paper, each priority will need to be funded for at least a decade. There should be a process for regular review and mechanisms to allow for the emergence of new priorities over shorter time horizons and open contest. The review process - and the associated Key Performance Indicators and performance metrics - should be designed to be Tiriti and equity compliant. Some excellent models for evaluating Tiriti-based outcomes already exist through the National Science Challenges and the work of Rauika Māngai.

2. TE TIRITI, MATAURANGA MAORI AND MAORI ASPIRATIONS

4. Te huarahi e marohitia ana Engagement

How would you like to be engaged?

Te Pūtahitanga acknowledges the opportunity to engage in this initial consultation process and the resourcing provided by the Crown for our collective to wānanga together. We note the Crown's responsiveness to aspects of our 2020 report and its resourcing for other Māori organisations.

As noted, **the Crown has a Tiriti responsibility to undertake meaningful engagement.** The Public Services Act 2020 makes it an explicit requirement for public service agencies to support the Crown-Māori relationship and the capacity to do so.¹⁸ The Public Service Commission goes even further, stating that an improvement in Māori outcomes is a goal.¹⁹

Meaningful engagement would include the Crown taking active steps to ensure Māori interests are affirmed, protected and Māori perspectives are recognised and provided for.²⁰

First steps might include direct engagement with Māori entities/collectives that have the expertise and that have taken the time to submit responses to the Green Paper.

Engagement with Māori must translate into practical outcomes to address Māori-defined priorities. It is important that engagement is not a one-off exercise but a continual process of discussion, interaction, and collaboration as the reforms are developed.

The Green Paper general engagements (that were themed around funding, workforce, early career RSI etc.) held online in December 2021 and January 2022 were disappointing due to the lack of Tiriti framing and te ao Māori thinking. Those who have a strong interest in RSI reform as end users, which includes iwi entities, Māori business and enterprise, were not well represented (if at all). More generally, the consultation process missed an important opportunity to learn from prior government engagement with Māori rights holders and stakeholders, including the extensive nationwide consultation undertaken for the *New Zealand Health Strategy*.²¹

A Tiriti-based RSI reform will affect all parts of the RSI system, and the MBIE consultation process was an ideal opportunity to start exploring what that means with a wide national audience, what barriers must be overcome, and what information the RSI sector needs to understand to participate in reforms that embeds te Tiriti. Instead, te Tiriti was primarily siloed to a singular discussion, and often at the end of break-out sessions with insufficient time allowed for meaningful discussion. Those consultations could have yielded valuable insights on tauwi perspectives of what is needed to bring the RSI sector into a Tiriti-based approach. It will be imperative that there are more Tiriti allies in existing institutions

¹⁸<https://www.legislation.govt.nz/act/public/2020/0040/latest/LMS106159.html>

¹⁹ Public Service Commission (2020). *Te whakapakari i te hononga i waenga i te Māori me te Karauna. Strengthening the Māori Crown relationship.* <https://www.publicservice.govt.nz/our-work/reforms/public-service-reforms-factsheets/?e5920=5932-factsheet-3-te-ao-tumataniustrengthening-the-maori-crown-relationship>

²⁰ <https://www.tearawhiti.govt.nz/te-kahui-hikina-maori-crown-relations/engagement/>

²¹ Extensive Māori submissions and consultation went into the *New Zealand Health Strategy* to determine a framework for establishing priorities - this was not acknowledged or referenced in the Green Paper.

(universities and CRIs) if true power and resource sharing are to be achieved with robust links between the national institutions and proposed regional hubs. This will help ensure that mātauranga Māori is acknowledged and embraced but not usurped. It will also help relieve the Māori RSI workforce of our 'cultural double shift'. The Crown has a responsibility to fill this critical knowledge and practice gap amongst tangata Tiriti.

The Crown must engage directly with its Tiriti partners and support Māori RSI leadership to develop a Tiriti-based RSI system. Engagement should include iwi (e.g., NICF), hapū, Māori leaders in the RSI sector (RSI specialists/technicians), mātauranga experts and tōhunga, rangatahi, regional and national community groups, Māori business and enterprise (Federational of Māori Authorities, Wakatū Incorporation etc.), and urban Māori leaders.

These te ao Māori groupings have diverse research agendas, aspirations, and RSI experience. They also have competing demands on their time and resourcing. There needs to be a space for their aspirations to be articulated and shared. In previous generations, Hui Taumata, or gatherings of esteemed leaders, met to address pressing issues. From such hui, new Māori-led systems emerged such as Māori-medium education (e.g. Te Kōhanga Reo, kura kaupapa Māori and whare wānanga).

We recommend that a RSI Hui Taumata - a national te ao Māori engagement (or series of engagements) - takes place to develop a shared te ao Māori vision of how RSI reform could accelerate Māori economic, environmental, social and cultural outcomes, and to identify those best equipped to progress a Māori-Crown codesign for the RSI sector. Regional hui may be necessary before the Hui Taumata to ensure that Māori around the motu have meaningful opportunities to participate. These hui should be undertaken before policy options are embedded into the White Paper, and should be resourced by the Crown.

5. Te whakamana me te whakahaumarū i te mātauranga Māori

What are your thoughts on how to enable and protect mātauranga Māori in the research system?

While mātauranga Māori, the Indigenous knowledge system of Aotearoa, is not yet widely acknowledged or genuinely valued in the RSI system, there have been some important developments in recent decades to acknowledge and foster mātauranga Māori research, with Ngā Pae o te Māramatanga Centre of Research Excellence providing strong leadership in the sector.

It is vital that mātauranga Māori be valued and protected in a reformed RSI sector. By valued we mean: mātauranga and kaupapa Māori research are well funded, in terms of research activity and the infrastructure to do so; mātauranga revitalisation receives investment; protections of taonga Māori (including mātauranga Māori) is funded, with appropriate funding to meet the Crown's responsibilities described in *Ko Aotearoa Tēnei*²²

²² Waitangi Tribunal (2011). *Ko Aotearoa tēnei: A report into claims concerning New Zealand law and policy affecting Māori culture and identity*. Wellington: Waitangi Tribunal.

and *Te Pae Tawhiti*, the whole-of-government response to WAI 262.²³ RSI investment in mātauranga Māori must increase and go to where knowledge and mātauranga is created - in mātauranga and innovation created outside of Western institutions.

Mātauranga Māori is currently vulnerable to misuse and misappropriation in the RSI space. Across universities, for example, there are no consistent standards for protecting mātauranga and intellectual property rights. Tikanga Māori can provide solutions to some of the risks of misappropriation.

It is crucial that research data management policies and practices explicitly address mātauranga Māori and Māori data sovereignty.²⁴ Data that contains, generates or is derived from mātauranga Māori is subject to Māori data sovereignty - this is defined as 'the inherent rights and interests that Māori have in relation to the collection, ownership, and application of Māori data.'²⁵ More broadly, **Māori data sovereignty over all Māori data** must be a foundational principle in RSI reform, and built into review and assessment processes.

Māori researchers and practitioners have already made a substantial contribution in this space. Te Mana Raraunga, the Māori data sovereignty network, has developed Māori data sovereignty principles²⁶ that are being implemented across a range of organisations and contexts. Supported by Māori researchers, the Data Iwi Leadership Group of the NICF is co-designing a whole-of-government Māori data governance model as part of their Mana Orite agreement with Stats NZ.²⁷ Māori data sovereignty researchers have worked closely with colleagues in the Global Indigenous Data Alliance (GIDA) to develop the CARE (collective benefit, authority to control, responsibility, ethics) principles for Indigenous data governance,²⁸ which have been endorsed by the Research Data Alliance and other international and domestic networks and organisations (e.g IEEE Recommended Practice on Provenance of Indigenous Peoples' Data). Māori researchers are also in close conversation with the First Nations Information Governance Centre which oversees the implementation of the OCAP® principles (Ownership, Control, Access, Possession) establishing how First Nations' data and information are collected, protected, used, or shared. After two decades of research and advocacy, FNIGC recently received \$73.5M from the Canadian Federal government to work towards the development and implementation of a First Nations data governance strategy. Te ao Māori is extremely well positioned to embed Māori data sovereignty into RSI sector reform, and in ways that could be world-leading.

Turning to Vision Mātauranga policy and the Vision Mātauranga Capability Fund, it is unlikely that these mechanisms can be sufficiently reformed to ensure that the mātauranga Māori-RSI nexus is determined by Māori, and that Māori cultural and intellectual property is

²³ <https://www.tpk.govt.nz/en/a-matou-kaupapa/te-ao-maori/wai-262-te-pae-tawhiti>

²⁴ Kukutai, T. & Taylor, J. (eds). 2016. *Indigenous data sovereignty: Toward an agenda*. Canberra: ANU Press; Walter, M. Kukutai, T., Carroll, S. R. & Rodriguez-Lonebear, D. (eds). 2020. *Indigenous data sovereignty and policy*. London: Routledge.

²⁵ Definitions of Māori data are included in the Māori data sovereignty principles, see below.

²⁶ <https://www.temanararaunga.maori.nz/nga-rauemi>

²⁷ <https://data.govt.nz/toolkit/data-governance/maori/>

²⁸ <https://www.gida-global.org/care>

protected. The magnitude of change required calls for new policies, funds, and structures to give force to Māori aspirations.

We encourage tauwi to understand mātauranga Māori and actively support mātauranga research as an important step in establishing a Tiriti-based RSI system. Tiriti allies have played valuable roles in the retention of mātauranga Māori and many more are needed. However, kaitiakitanga and leadership of mātauranga Māori must remain with Māori, iwi, and hapū. It is inappropriate for tauwi who have been funded through Vision Mātauranga to describe themselves as mātauranga experts. The Fund should be firmly focussed on research that is by Māori for Māori. Instead it has enabled further misappropriation of Māori knowledge and values by tauwi who do not understand the magnitude of receiving Vision Mātauranga funding. Nor do they have the enduring obligations and relationships to Māori communities that Māori, as iwi and hapū members, have. This well-intentioned but wrong-headed thinking has caused harm to how mātauranga Māori is perceived and used.

The future RSI workforce must prioritise mātauranga Māori, and build capacity and capability with focussed initiatives to foster strong connections with iwi, hapū and Māori communities as kaitiaki of mātauranga Māori. Their RSI aspirations, needs and priorities should determine mātauranga Māori policy in an autonomous Māori RSI space and the RSI sector generally.

In our 2021 report we recommended that Māori Chief Science Advisors (CSAs) be appointed in key government agencies. We envisage them playing a lead role in the wider RSI sector to enable and protect mātauranga Māori including oversight of the wider RSI spend on mātauranga Māori. While based in mainstream agencies, the CSAs would have strong connections with Māori communities and be a conduit to build relationships and trust between agencies and Māori communities, and the autonomous Māori RSI entities we have recommended.

As per the recommendation in our 2021 report,²⁹ the establishment of an autonomous mātauranga Māori Commission/entity and baseline funding would enable independent legitimacy and accountability to the Māori communities that it serves.

6. Te whakapakari hononga ki te mātauranga Māori ā-rohe **Regionally based Māori knowledge hubs**

What are your thoughts on regionally based Māori knowledge hubs?

We are pleased that the Crown has acknowledged our 2021 recommendation to establish regionally based Māori knowledge hubs that would 'identify iwi, hapū and community policy priorities and needs, and provide Māori thought leadership for medium- and long-term strategic development that extends beyond election terms'. These could take the form of iwi or rohe research institutes with clearly defined Kaupapa Māori and mātauranga Māori funding streams. The regional and national te ao Māori engagement process could identify the structures that will work best for Māori, and the level of aggregation required.

²⁹ Kukutai, T., McIntosh, T., Boulton, A., Durie, M., Foster, M., Hutchings, J., Mark-Shadbolt, M., Moewaka Barnes, H., Moko-Mead, T., Paine, S-J., Pitama, S. & Ruru, J. 2021. *Te Pūtahitanga: A Tiriti-led science-policy approach for Aotearoa New Zealand*. Auckland: Ngā Pae o te Māramatanga.

Community-derived research provides greater benefit to their constituents than research from a top-down approach. The Covid-19 pandemic has demonstrated the weaknesses of the latter. Local intelligence and knowledge is fundamental to effectively respond to crises and endure in non-crisis times.³⁰

At-place research is currently under-valued and under-resourced yet could greatly benefit Māori, our wider communities, and Aotearoa NZ. Iwi, hapū, whānau and Māori businesses and community organisations must be properly resourced to do our own research according to our own priorities, in our own communities. They must be resourced adequately to participate safely in research, and have the ability to build their RSI infrastructure.

We recommend that RSI hubs are embedded in legislation and enable nationwide policy settings informed by regional experiences and priorities. The hubs are a vehicle for the expression of rangatiratanga for our communities. These should have the ability to map research happening across their rohe, and the return on investment to them and the public purse; to connect back to mana whenua, and to protect their research intellectual property. Building capability will be a high priority with a focus on how to integrate research capability with delivery and implementation to become 'business as usual'.

3. FUNDING

7. Ngā kowhiringa matua mō ngā taumahi matua

Core functions

How should we decide what constitutes a core function and how do we fund them?

Achieving equitable outcomes must be a core function of RSI funding. Funding priority could be based on expected or demonstrated outcomes and impacts for whānau, hapū, iwi and hapori. This focus on high-impact is often an intrinsic part of research conducted by Māori to create change in Māori communities, and prioritised over individual career advancement.

Develop Tiriti-based guidelines for RSI funding

These guidelines should support funding agencies to understand and meet their Tiriti obligations and opportunities with respect to their investments in RSI.

- The funding model - whether full cost or marginal with base grant - should be calibrated to accelerate Māori research activities, research capacity and impact by design, rather than consequence.
- There are protected, dedicated Māori research funding streams.
- There are distinct funds and institutions that provide for Kaupapa Māori by Māori for Māori research.
- Iwi, hapū, whānau and Māori community organisations are properly resourced to do our own research according to our own priorities, in our own communities.

³⁰ McMeeking, S. & Savage, C. (2021). Māori response to COVID-19. *Policy Quarterly*, 16(3). <https://doi.org/10.26686/pq.v16i3.6553>

- Equity is embedded into funding and evaluation decisions.
- Evaluation criteria for research proposals will include benefits to Māori as Tiriti partners, including localised outcomes/benefits.

8. Ngā kōwhiringa hoahoa mō tētahi tauria tuku pūtea hou Establishing a base grant and base grant design

Do you think a base grant funding model will improve stability and resilience for research organisations, and how should we go about designing and implementing such a funding model?

The Green Paper identifies a number of reasons for why the current full cost funding model might be replaced by longer-term base grants and marginal cost research grant funding. The incentives include greater funding security that enables institutions to adapt to meet priorities while ‘keeping the lights on’, and harmonisation with international systems. However, the Green Paper is relatively silent on how base grant funding could be a lever to realise Māori RSI ambitions - addressing this is crucial.

In a Tiriti-based RSI system, any redesign of funding mechanisms should be calibrated in such a way as to achieve best outcomes and impacts for Māori. These should include ringfenced Māori RSI base grant funding, the distribution of which is determined by Māori. This funding could cover Māori research undertaken in mainstream institutions (such as universities and CRIs, including a potential Māori CRI), as well as those undertaken in autonomous Māori institutions. In the case of mainstream institutions, the distribution of base grant pūtea intended to accelerate Māori research outcomes, impacts, and capacity should be decided by Māori. From experience we know that, if left to the designations of tauwi governance and management, our aspirations will neither be prioritised nor met.

Investment in RSI also needs to go to where knowledge and mātauranga is created - mātauranga and mātauranga-based innovation are largely created outside of mainstream institutions. Too often the approach of mainstream institutions to mātauranga is to put resources into helping tauwi researchers gain competence and confidence in Māori spaces, rather than dedicating substantial pūtea to accelerate Māori innovation, creativity, and commercial potential.

Base grant funding provides a mechanism for the establishment and operation of diverse types of Māori RSI entities, simultaneously allowing for a broadening, deepening, and maturing of the Māori RSI ecosystem. There are limited Māori entities that currently receive some form of core funding. Those that do report that it enables their senior researchers to sidestep the treadmill of having to apply for every grant available to fund the salaries of their administrative staff and ECRs. This frees them up to focus on undertaking research that meets their strategic and long term vision, without having to react to changing Crown priorities. It also enables them to focus on the needs of the iwi/hapū/hapori that they serve. Senior researchers have a period of time to grow, mentor and nurture emerging researchers in such a way as to provide them with a good grounding in kaupapa Māori research, rather than a once over lightly. Institutional knowledge is valued and embedded within the culture of the organisation.

There are also ample opportunities to implement base funding in ways that incentivise institutions to address their long-standing underinvestment in Māori and Pacific workforce development (see more in section 5). The submission from Tagata o le Moana ECR forum of Te Apārangi recommends that university and institutional overheads be removed for Māori and Tagata o le Moana led research in order for the pipeline to be truly equitable. They argue, and we agree, that they “stifle opportunities to support and grow more students in the RSI, and build stronger relationships with Māori and Tagata o le Moana communities that we work in partnership with”. The replacement of the current funding model with base grants could include bespoke requirements to ensure that funding for Māori research is put in the hands of Māori researchers and their partner communities, rather than institutions.

4. INSTITUTIONS

9. Te āhua, whakaruruhau me te hanganga o te whakahaere

Institution design

How do we design collaborative, adaptive and agile research institutions that will serve current and future needs?

Intentional design for the outcomes we wish to achieve is a key to the development of adaptive and agile institutions. This needs to be part of an overarching transformative agenda that stretches beyond the current parameters of what the RSI system represents to many who work within it, i.e. the institutions.

The establishment of an independent space for Māori RSI is key to reform that provides benefits to all within Aotearoa. The wider Aotearoa Tiriti-based RSI system will also herald new opportunities through being designed collaboratively with Māori. Key features include:

- Equitable governance (which is different from equal governance) under a set of agreed principles which guide decision-making, including where there is conflict or uncertainty.
- Equitable funding (which is different from equal funding).
- Clarity about roles and responsibilities of the players in the system, and allows for self-determination at the right levels and in the right places.
- Different ways of measuring outcomes, (eg., not how many publications are written but how the impacts have been felt).
- Fit-for-purpose systems and processes, including protocols for protecting Māori cultural and intellectual property, tohunga, communities etc.

For institutions it is important that the following features are designed:

- No entities with responsibility for public funds should be established or funded without policies already in place regarding te Tiriti, mātauranga Māori (including protection against cultural misappropriation), co-governance, participation and engagement that directly translates into outcomes for Māori.
- Ensure that part of the ethics assessment process includes how a project is meeting te Tiriti responsibilities.
- The criteria that universities use to assess research needs to be embedded with Māori principles and values and focus on Māori research that creates positive community outcomes.

- Different criteria for assessing doctoral research proposals through a normal (Māori) process. Shift the assessment criteria to be broader to translate Māori research into community outcomes.
- Accountability needs to be built into leadership and management employment contracts.

It is likely legislative change will be required to ensure existing and new institutions are Tiriti-based. For example, while the Enduring Letter of Recommendations to Statutory Crown Entities makes it an expectation for Statutory Crown Entities to improve Treaty Relationships and address institutional racism,³¹ there is no such requirement under the Crown Research Institutes Act. CRIs, in whatever form they will take, should be updated to carry Tiriti requirements, and any research institutes that receive government research funding should carry Tiriti responsibilities.

A cross-government approach to guide departments on how they can transparently evaluate, measure and report on how their investments contribute to positive Māori outcomes will help all involved including Māori and regional leadership. There should be a clear pathway for increased investment in Māori-led RSI.

Independent entity

In our 2021 report we recommended the establishment of a mātauranga Māori Commission/entity. The Commission would sit outside the public service, with autonomous governance and baseline funding. It would provide leadership over mātauranga Māori including Māori knowledge priorities that extend beyond the RSI sector. The Commission should have a statutory committee of its own, and be embedded in legislation separate to the Ministry of Business, Innovation & Employment (MBIE) so it has a single focus of achieving Māori RSI agendas and outcomes. It needs to be empowered to support a more visionary, imaginative space for Māori RSI and develop its own policies and procedures, underpinned by te Tiriti.

There are examples of independent or parallel Māori entities in other sectors to learn from. For example, under Te Whare o te Reo Mauriora, there are two autonomous entities Te Taura Whiri i te Reo Māori and Te Mātāwai. The former is focussed on Crown objectives and obligations to actively protect te reo Māori; the latter is a vehicle for whānau, hapū, iwi and hapori-driven objectives and outcomes. They work in complementary and joined up ways to achieve impacts for Māori, as well as for Aotearoa.

10. Te whakawhanaketanga me te tautiaki pai ake o te hunga mahi me te raukaha Role of institutions in workforce development

How can institutions be designed to better support capability, skills and workforce development?

A future focussed RSI system should have a cohesive workforce that develops the capability of all. It would ensure that the Māori RSI workforce is strongly connected, especially with those who are community placed.

³¹<https://www.publicservice.govt.nz/resources/enduring-letter-of-expectations-to-statutory-crown-entities-2019/>

It is important that institutions be required to partner with Māori entities, or be led by Māori entities on research prioritised by Māori. We believe that if Māori have real opportunity to endorse work plans and programmes, and choose their own partners, that this would affect behaviour change and capacity building in RSI institutions. Those agencies that have a demonstrated commitment to te Tiriti and strong relationships with iwi and Māori organisations and communities would provide leadership for the Crown-led spaces. The Māori CSAs should be resourced to connect and extend cross-agency Māori science leadership capacity.

Māori within the Crown space have largely carried the responsibility of upholding Tiriti responsibilities on behalf of the Crown. The double cultural shift or ‘cultural tax’ of being Māori in an institution that expects Māori to fulfil their technical (mainstream) role while also unofficially being expected to raise the cultural capacity of their non Māori colleagues potentially makes a career in RSI fields undesirable.

Relatedly, consideration needs to be given to Māori ECRs and others in the RSI workforce who are reclaiming their whakapapa. Their capability to provide knowledge based on lived experiences as Māori, or matauranga Māori, may be limited and should be supported rather than exploited by the system. Creating more opportunities for Māori postgraduates to gain mātauranga Māori capability through training outside of mainstream institutions is valuable.

We acknowledge that there are complex issues to support institutions to build capacity, skills and workforce development for Tiriti-based RSI futures. However, Māori have skilled people spread across multiple sectors who can now pick up a research agenda and drive it according to te ao Māori priorities.

Finally, we support the call for rangatahi-focussed initiatives to be supported so that more of our tamariki can see themselves as researchers, scientists, and innovators. We call for baseline funding for initiatives that have a proven track record and are supported and contribute to iwi and hapū aspirations. This includes our three whare wānanga, Te Wānanga o Raukawa, Te Wānanga o Aotearoa, and Te Whare Wānanga o Awanuiārangī; and initiatives such as Pūhoro (see case study, below), which now stands as an independent Māori driven initiative supporting tauira Māori within the secondary and tertiary education sectors and Te Koronga (see section 5).

Case Study: Pūhoro Charitable Trust (Pūhoro) accelerates Māori participation in Science, Technology, Engineering, Mathematics and Mātauranga Māori (STEMM). Pūhoro is an exemplar programme, that is achieving outcomes for Māori that are not demonstrated elsewhere in the secondary, tertiary or STEMM industry sectors. It is by Māori for Māori, and has a clearly defined Māori capability pipeline for rangatahi Māori in STEMM. Pūhoro drives systemic change, removes barriers, and creates seamless transitions so that whānau Māori can carve out their own STEMM futures. Pūhoro is a transformative solution that addresses the disproportionate participation of rangatahi Māori in STEMM. Notable achievements to date include:

- Establishment as an independent by Māori with Māori and for Māori Charitable Trust (governed by Māori leaders and academics in governance, economic development, law, science, research and innovation)
- Iwi partnerships that privilege mātauranga-ā-iwi and STEMM opportunities for their uri
- Research partnerships that include provision for Pūhoro rangatahi summer internships and post graduate scholarships
- STEMM industry partnerships that generate over 50 summer internship opportunities annually
- Over 1500 rangatahi across 7 regions, actively participating in STEMM pathways (with a trajectory to grow to 5000 over the next 3 – 5 years)
- Pūhoro rangatahi school leavers being five times more likely to transition to degree level tertiary programmes than Māori school leavers.

Question

11. Te ruruku pakari ake me te arotautanga o ngā haupū rawa me ngā rawa nunui Better coordinated property and capital investment

How should we make decisions on large property and capital investments under a more coordinated approach?

Significant investment must be made in appropriate property and capital investments that are fit for purpose for a Tiriti-engabled RSI system. This includes:

- Māori RSI hubs
- Iwi, hapū and hāpori organisations
- In mainstream organisations, 'Māori spaces' are often an afterthought, as such there is opportunity for the properties and capital investments to 'look, feel, and be' Māori within a transformational RSI system.

As described throughout this submission the decision making process needs to be Tiriti compliant.

Question

12. Te tautoko i ngā wawata o te Māori Institution design and Te Tiriti

How do we design Tiriti-enabled institutions?

This question has been covered through other sections of this submission. However, to reiterate, institutions are generally unwilling to share power unless there are incentives and consequences, legislation, or authorising environments that facilitate positive Tiriti-enabled institutions. To design such institutions therefore there needs to be: 1) constitutional reform; 2) a change of legislative environment that explicitly places Te Tiriti o Waitangi at the heart of a future RSI system; and, 3) a robust whole-of-government approach to address the issues traversed in WAI 262.

There needs to be an independent space that is designed and controlled by and for Māori. This can be very beneficial to the country and the wider RSI system as Māori will be more willing to share knowledge in a space where being Māori is honoured and normalised.

The Crown needs to recognise and trust that their Tiriti partner knows what they need and how to achieve it. Examples that provide some direction of a way ahead include the Māori Health Authority, established under the Pae Ora (Healthy Futures) Bill and Te Matāwai, established under Te Ture mō te Reo Māori 2016 (The Māori Language Act 2016).

Leadership is a significant factor in developing Tiriti-enabled institutions. This point was made by many of our collective members in the two wānanga held to develop this submission. As one of our members noted,³² an individual must be secure in their own identity to be able to sit with the community:

“...it's not just leadership but how to play well in that team. How to ensure the mana of others is enhanced and the overall outcome which is bigger than all of us, is achieved. There's quite a bit of capability building to be done in that space and exposing people to thinking about how you make your other partners successful in those contexts.”

It is critical that there is space to grow Tiriti-based RSI institutions within existing Māori spaces so that mātauranga Māori flourishes. This will help the wider system that often knows what it is doing is not helping our society equitably but does not know any other strategies. As was noted in our wānanga:

“Where are the opportunities for our non-Māori and Māori researchers who don't engage in kaupapa Māori research, and even institutions to decolonise so those who are making change in communities are enabled to do so?”

“(We) need space to think about outcomes and the priorities that you're serving and for them to influence that mechanism.”

13. Ngā pāpātanga pai ake – te whakawhiti mōhiohio me ngā pāpātanga rangahau Knowledge exchange

How do we better support knowledge exchange and impact generation?

What should be the role of research institutions in transferring knowledge into operational environments and technologies?

RSI reform should lead to better outcomes and improved living standards for people and planet. As one member noted:

“I'd like to see large scale integrated programmes where rangatahi, experienced practitioners and researchers work together on common projects that deliver human health outcomes, te taiao health outcomes and economic viability, because I think we're going at them in a disintegrated way. We can focus our resources and develop capability building to integrate and provide support for such schema at

³² The following sections contain quotes from kōrero shared in our two wānanga.

place. We'd all learn together and develop both research capability and deliver capability.”

Research happens in all environments, or ‘at place’ and does not need to be institution driven. The establishment of rohe/place-based hubs that incorporate a wider definition of an RSI community will help with transferring and operationalising knowledge. The community includes those who do not see themselves within or even know an RSI system exists. It can also include the business sector who rely on RSI to improve their systems and profitability. Think Tanks that focus on the 17 Sustainable Development Goals (SDGs) can have significant impact on local, national, and global problems.

Examples of large scale projects that are being undertaken at place and supported by science, research and technology, and led by Māori include the [Taranaki Mounnga](#) Project.

There will be a significant change of focus required by the majority in the current RSI system to pivot towards a system that is focussed on generating impact. Māori scientists and researchers can lead the way in this area. As one of our members noted:

“Our funding is reliant on demonstrating outcomes and impacts and has been for the last seven years and my bias is that Māori will tend to do this very well. We think of outcomes and we think of impact because we're thinking of our whānau, our hapū, iwi and communities that we are trying to impact. We think the purpose of research, for many of us, is to get change in some way shape or form for our people. So for Māori, I think it is less concerning, if outcome and impact are the end goal. I think where the challenge comes, is getting our non-Māori partners to understand what that means, and what that means for our communities and our hapū and iwi. So I actually have faith in Māori researchers to be able to reconcile that. And I think it's a major shift for the large majority of the rest of the system to understand what that looks like and think beyond publication and career development and what they're doing in their research space and actually what this means on the ground for people.”

An impactful RSI system must welcome those who currently don't see themselves in the system. Their ‘fresh eyes’, expectations, and lived experiences can and do contribute to better outcomes. Indigenous solutions must remain the intellectual property of Indigenous communities. Notwithstanding this condition, such knowledge can generate global possibilities and should enable knowledge holders to stay connected and be kaitiaki of their taonga. More impactful outcomes will be generated as trust builds and capacity and capability grows in both Māori and Crown entities.

5. WORKFORCE

14. Ngā whakaarotau me te hunga mahi rangahau Workforce and research Priorities

How should we include workforce considerations in the design of national research Priorities?

A Tiriti-based approach to workforce development is urgently required. This also includes a more nuanced approach to monitoring Māori workforce development beyond student completions. There are numerous stories of Māori researchers, scientists and academics on soft money year after year and, in some cases, for the majority of their career. The decades of under investment in growing Māori STEM capability has resulted in a RSI system not reaching its potential and failing to be fit for purpose in an Aotearoa context.

What is the role of rangatahi in both designing and participating in a Tiriti-led RSI system? Will they be able to see a place for themselves? How will the new RSI system enable them to be both a researcher and Māori? There are numerous examples of the lone Māori academic in science faculties whose science subject matter expertise is overlooked in favour of 'cultural duties'. This also results in Māori leaving science and moving to more 'Māori friendly' spaces such as Māori studies. Many Māori researchers have a passion for research at the interface of our disciplines and mātauranga but the system doesn't value it, and sometimes actively works against it. This was poignantly demonstrated, time and again, in the landmark book from Ngā Pae o te Māramatanga, *Nga Kete Matauranga: Māori scholars at the research interface*.³³ A Tiriti-based RSI system needs to have cohorts of Māori across the science system in spaces where Māori science leadership connected with Māori community wellbeing can thrive.

We suggest a Māori RSI workforce group be established, this needs to be led by Māori for Māori. The purpose of this group will be to build a Māori RSI workforce strategy that draws from the current success of kaupapa Māori approaches for growing Māori participating in STEMM.³⁴ It should also be informed by the lived experiences, wisdom, and aspirations of ECR - such as the Māori and Tagata o le Moana ECR forum of Te Apārangi.

We provide two examples of successful kaupapa Māori organisations in two adjacent sections of the workforce pipeline.

Firstly, the aforementioned Pūhoro is in the secondary school, school leavers section of the pipeline. The success of Pūhoro highlights a significant gap in the existing workforce pipeline where rangatahi Māori are encouraged, mentored, and given the opportunity to thrive *as Māori* in areas in education which have historically underserved Māori, yet are of critical importance for Māori futures.

In the tertiary sector, Te Koronga is a kaupapa Māori research and teaching excellence rōpū (group) in sciences at the University of Otago³⁵. The vision of Te Koronga is mauri ora (flourishing wellness) and the kaupapa or mission is Māori research and teaching excellence based on the aspirations of Māori communities underpinned by a Kaupapa Māori ethos. Te Koronga has undergraduate and postgraduate pathways which aims to produce Māori researchers who are trained in kaupapa Māori research techniques alongside Māori communities. Te Koronga mentors early career Māori researchers and develops intentional Māori academic leadership pathways into permanent kaupapa Māori

³³ J. Ruru & L. Nikora (eds). *Nga kete mātauranga: Māori scholars at the research interface*. Dunedin: Otago University Press.

³⁴ STEMM - refers to Science, technology, engineering, mathematics and mātauranga.

³⁵ <https://www.nature.com/articles/d41586-018-05316-5>

positions in sciences. The leaders of Te Koronga carry the responsibility of navigating institutions which do not support increasing permanent Māori academic positions, nor readily engage in Te Tiriti conversations. Recently, Te Koronga has led a claim of systemic racism within the institution and those claims have been upheld.

With regards national initiatives, Te Kupenga O Mai³⁶ - the national Māori and Indigenous postgraduate network funded and supported by Ngā Pae o te Māramatanga - has created a supportive network of Maori scholars across disciplines and institutions with a strategic emphasis on capability building and leadership. It has created a safe space for Māori postgraduate students and future leaders to flourish as Māori, which the wider sector has benefited from, but has contributed relatively little to.

Activating the recommendations of these Māori-led rōpū, which are provided in the bullet points below, will require partnerships across agencies such as the TEC and Ministry of Education, as well as a significant budget allocation to deliver the changes to building Māori workforce development.

Some key considerations in designing this system should include:

- The length of time required to grow a Māori researcher, and the additional needs to grow a Māori researcher who focuses upon kaupapa Māori, needs to be appropriately resourced with leadership, mentorship and cultural safety provisions.
 - Rangatahi pre-tertiary study (5 years)
 - Undergraduate study (3-6 years)
 - Postgraduate study (1-7 years)
 - Early career research (1-10 years)
 - Middle career (10+years)
 - Senior researcher
- The need to provide permanent roles for Māori in the RSI system.
- An intentional focus on growing te Reo researchers throughout the system.
- Acknowledge the 'cultural double shift' responsibilities of Māori in the RSI and having this rewarded through promotion processes.
- Recognise the need for mātauranga Māori and fund and hold space for it, and grow the capability and capacity for Māori needs, RSI needs and our global contribution.
- Recognise community leadership and research excellence.
- Make funding outcomes more transparent and equitable.
- Support the cultural reawakening of Māori researchers and scientists through cross-government initiatives that foster mātauranga Māori in homes, community and schooling and in institutions.
- Accentuate and strengthen the supply channel of Māori RSI talent, and ensure meaningful and secure career pathways in Indigenous RSI.
- Provide sufficient base funding for organisations that reduce barriers to Māori participation at all levels, including compulsory education.
- Enable Māori leadership by funding Māori directly.
- Fund programmes that invest in mentoring Māori leadership in RSI.
- Often Māori are involved in more senior leadership roles earlier in career than their non-Māori colleagues and as such require leadership training earlier in career

³⁶ <http://www.mai.ac.nz/>

- Identify and address social and economic inequities.
- Ensure there are clearly thought out pathways for community based researchers to grow the Māori research workforce outside the existing RSI system such as within whānau, hapū, iwi and community organisations.

15. Ngā pūtea me te hunga mahi rangahau

Base grant and workforce

What impact would a base grant have on the research workforce?

We agree with the sentiments of the Green Paper that base grants could offer opportunities to address potential problems in the research workforce, including reducing precarity, increasing diversity, and providing high-quality career pathways. Any base grant funding allocations need to be consistent with a Tiriti approach, with some examples already in place across the NSCs.

Within mainstream institutions, Māori workforce precarity could be alleviated through base grant funding for research groups or individual researchers, rather than the institution. For research groups, funding could be allocated for some capability and capacity development activities for researchers and Māori knowledge holders, and their hapori as part of the research. Currently that tends to be treated as development activity outside of the research programme. Despite the mounting evidence-base on Māori workforce precarity and barriers to hiring, retention and promotion, mainstream institutions have been slow to respond in ways that create change, at scale. There are few incentives for them to seek relief inside their current overhead regimes to devolve funding to Māori-led research groups or individual Māori, such as postdocs on contracts with conversion pathways to permanent roles.

A move to base grant funding could require minimum 1.0 FTE Māori engagement roles in research projects and activities which today are often resourced after the fact, and which leads to double-shifting for Māori in the research organisation. There are many examples where 0.01 FTE or 0.02 FTE are not useful or helpful, and should not be condoned. The on-going fractionation of Māori scientists and researchers on very low FTEs is resulting in Māori workforce burnout and hampers the ability to grow Māori capability and capacity in the RSI sector. Furthermore we know from evidence that Māori scientists and researchers are more likely to be on soft money than non-Māori, base grant funding has the potential to address this.

Transparency and accountability are also important with regard to how base grant funding is used - even more important is the need for accountability with regard to any Māori outcomes that are proposed to be delivered through this form of funding.

Given that the majority of research institutions that will receive base grant funding are founded on and dominated by Western epistemologies, it will be a significant shift in the behaviours of these Western institutions to move to a Tiriti-based approach to base grant funding. Furthermore, it should be Māori who determine how to invest base grant funding inside institutions so that the parameters on delivering on Tiriti RSI outcomes are driven by Māori for Māori in ways that elevate mātauranga Māori and wellbeing.

Independent Māori research entities and Wānanga need to be able to access base grant funding. We know that independent Māori research centres that are in receipt of overhead are able to deploy a significant portion of overhead to grow Māori capacity and capability both within Māori communities and with their own internal staff, through formal and informal professional development opportunities.

For example, overhead funding has been used to buy out and subsidise study time, build the capacity of tauwi staff who wish to work in a kaupapa Māori environment, and support the wider research workforce through offering well-funded scholarships. We know Māori come to postgrad education late and a \$25k stipend is not enough to support a whānau. In addition, Māori research entities when having access to overheads are also able to support and grow the capacity of local Māori providers, mentoring them so that they are able to undertake and eventually lead their own research projects for their organisation and/or community. The only reason independent Māori research organisations can do this is because they control how overheads are spent.

16. Ngā tikanga tuku pūtea hou

Better designed funding mechanisms

How do we design new funding mechanisms that strongly focus on workforce outcomes?

The question we are asked is ‘how do we design new funding mechanisms that strongly focus on workforce outcomes?’ The simple answer would be to say, we design these things together. There is a large RSI workforce with career paths that will be affected by the reforms which must be considered; however, we need to ensure we do not fund for the sake of the workforce, but rather that the workforce is funded to meet the RSI needs of the community, to achieve outcomes that make lives better. This is especially important in light of the Covid-19, climate change, and other local and global challenges we face.

He aha te mea nui o te ao? He tangata, he tangata, he tangata.

We will not improve community outcomes if we do not have the workforce to enable this through excellent RSI. Funding mechanisms that deliver strong workforce outcomes ensure a system where great talent is attracted and retained, and where those who work in the system can see how their work is making a contribution to wider community or societal outcomes. Citizens should be able to see and measure the impact of publicly-funded programmes on a local, regional and national level. Excellent communications, monitoring and data systems should assist in providing this insight.

Māori have been at the receiving end of many Crown or institution led entities. There are many examples where initiatives are most successful when Māori leadership and direction is enabled to flourish outside of institutions. What could happen if new funding mechanisms enabled independent, expansive thinking outside of the parameters of existing institutions that are bound by their culture, norms and privilege? We ask that the Crown acknowledge the evidence of excellence, of delivering despite the systemic racism and structural denigration of Māori knowledge systems, and the resilience and contribution that Māori continue to make in Aotearoa. We ask that the funding mechanisms trust that investment in Māori will help all Aotearoa towards greater outcomes. We note that if such investment is

not made, that we will continue to see untapped human potential and social and economic inequities in te Ao Māori that impacts us all.

We advocate for ongoing investment to investigate where the biggest RSI returns will come in Aotearoa, and reinforce our belief that it lies in Māori potential and spaces for Māori to design and determine the way forward.

6. RESEARCH INFRASTRUCTURE

17. Ngā kowhiringa hoahoa matua mō te tuku pūtea ki te hanganga rangahau Funding research infrastructure

How do we support sustainable, efficient and enabling investment in research infrastructure?

It is important to consider the definition of infrastructure and how investment in groups outside of traditional RSI infrastructure can occur. The current approach to funding research infrastructure predominantly supports Western epistemologies, institutions, and innovation. We include tangata and hapori as a key part of infrastructure and see the need to think about Māori workforce development alongside infrastructure. Given that Māori are underrepresented in Western institutions, we are also underrepresented in accessing infrastructure funding. We support the establishment of a mātauranga Māori Commission/entity as new infrastructure in the RSI system. For these to be successful requires both sustainable and significant new infrastructure funding.

Our view is that such a mātauranga Māori Commission/entity should sit outside the public service, with autonomous governance and baseline funding. It would provide leadership over mātauranga Māori including Māori knowledge priorities that extend beyond the RSI sector. Māori must be in partnership decision making roles to appoint this Commission/Entity. It could also support the establishment of co-governance over national collections and databases which would transform the relationships between these collections and Māori communities. The establishment of such an entity would necessitate ringfenced funding and appointment of a transitional national Maori body to oversee its establishment.

Place-based RSI hubs provide infrastructure to support place-based research and decentralise research infrastructure to Māori communities. Growing capacity and capability of kaitiaki at place through research infrastructure strengthens the response to rapid biodiversity loss, climate change, land and water use while whakamana mātauranga. Implicit in funding research infrastructure is a kaitiakitanga approach that embeds environmentally conscious choices to mitigate the effects of climate change.

For both the national entity and place-based hubs to successfully function, and cohere, will require strategic investment in data infrastructure. A Treaty-based approach should enable the development of data infrastructure that is controlled by iwi, hapū, and hāpori. This will require a shift towards a more distributed system, with control and authority delegated to collectives. This will not only safeguard Māori data, consistent with Māori data sovereignty, but also provide mechanisms for capability-building in communities, and enable place-centred research activity that does not require the activities or researchers to be located to

main centres. Recent initiatives such as the iwi data platform Te Whata,³⁷ developed by the NICF Iwi Data Leadership Group for the benefit of all iwi, and the Ngāti Tiipa hapū digital pātaka, are some example of what by Māori, for Māori data infrastructure can look like.

³⁷ <https://tewhata.io/>

Appendix 1

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