

**MBIE ‘TE ARA PAERANGI’ FUTURE PATHWAYS  
GREEN PAPER CONSULTATION  
A RESPONSE FROM THE  
RIDDET INSTITUTE DIRECTORATE**

**16/03/2022**

**INTRODUCTION**

1. The Riddet Institute is a Centre of Research Excellence (CoRE) [[www.riddet.ac.nz](http://www.riddet.ac.nz)] hosted by Massey University, undertaking fundamental and strategic scientific research in food science, nutrition and related disciplines. Our vision is ‘*Future Foods in Harmony with Nature*’; we will provide the underpinning science to support tomorrow’s innovations in advanced foods. These foods will be sustainable, support optimal nutrition, human health and wellbeing, and appeal to the preferences of tomorrow’s global consumers.
2. The partners in the CoRE are Massey University (host), the University of Auckland, University of Otago, Plant & Food Research and AgResearch. The Riddet Institute ‘headquarters’, including the management team, postdoctoral scientists and research fellows, is located at the new AgResearch and Massey University joint food research facility, Te Ohu Rangahau Kai, on Massey University’s Manawatū campus.
3. The Institute’s strategic priorities are: to enhance New Zealand’s reputation with world-class expertise in food science and related disciplines; to develop capability, and the creation and transfer of advanced knowledge to a sustainable food sector in Aotearoa New Zealand; to help future-proof the food sector in Aotearoa New Zealand and address local and global sustainability challenges; to help build a stronger indigenous food sector in Aotearoa New Zealand, supporting improved economic outcomes for Māori; to support the food sector in Aotearoa New Zealand to be more inclusive, diverse and equitable, and provide more opportunities for Māori and Pacific Peoples; and, to develop new nutritional indices of food and nutritional guidelines to support informed food choices for consumers.

**Overarching Themes:**

The Riddet Institute has identified several critical themes that will underpin and inform solutions to each of the focus areas proposed by MBIE (see headings below). These are:

- National strategy / national priorities
- Mindshifts to raise the low level of public and private investment in research in general, providing sustainable, longer-term funding
- Attraction and retention of talented researchers (enhanced career pathways)
- Honoring Māori and Te Tiriti
- Effective and efficient national and international collaborations (research; investment; infrastructure)



## KEY TOPICS

### 1. Research Priorities

*'We are seeking your feedback on the principles and features for designing, deciding on and operationalising a single set of system level Priorities for the research system'*

- By way of a foreword, the Riddet Institute is of the view that food must be a top national priority for New Zealand. We believe that research priorities linked to the agrifood sector are critically important to help generate the future knowledge and skills required to help address the unprecedented challenges and complex issues facing the food sector in a rapidly changing world. With food as a key national priority, we will be able to secure our competitive global advantage in the efficient and sustainable production, as well as building on new high-value food innovations.
- Furthermore, the New Zealand agrifood industry is currently one of New Zealand's largest employers, at 1 in 5 working in the wider food chain, and we need to ensure that these numbers continue to flourish. The Riddet Institute CoRE plays a critical role in developing the future advanced human capability that New Zealand will need to succeed in what is its largest export sector (currently at around 50%). Without a national priority placed on training and rewarding career pathways in the R&D food ecosystem, our future workforce may be tempted to look further afield for employment.
- Therefore, we support the adoption of a single set of national level research, science and technology (R,S&T) priorities, including food, which span the whole science and innovation system and are all inclusive to all research and other providers.
- These priorities should be driven equally by social, environmental, and economic considerations which will benefit all New Zealanders, and future generations, equally and equitably, to achieve long term sustainable solutions.
- For the priority-setting process to best give effect to Te Tiriti, Māori should be self-determining and at the decision-making table from the outset.
- An independent (non-political) body should be established to firstly define the process for setting priorities and the strategy for implementation, grounded in robust cross-sector and community consultation, as well as overseeing the continued operationalisation of the strategy.
- Re-structuring of organisations, so capability is targeted to the priority areas (e.g., Food and Fibre etc.), could be executed to support operationalisation of the national strategy.



- Investment priorities should focus on NZ-centric problems i.e., those that need to be solved by NZ, and identify areas that NZ can lead at a global level, or where we have an advantage, to help lift NZs economic, educational, and social profile. Investing in growing capability in these areas should be a priority. Priority should also be given identifying key issues faced by NZ that could be greatly enhanced and benefit from international collaboration.
- To build the capability and capacity required to deliver impact against national priorities, the right balance of basic/fundamental research, applied research and more commercial research will be necessary.

## **2. Te Tiriti, Mātauranga and Māori Aspirations**

*‘We would like to explore how the research system can seek to understand and honour Te Tiriti obligations and opportunities, and explore pathways to a modern research system for New Zealand that is Tiriti led’*

- Māori solutions should be Māori-led. There is a role for R,S&T to be facilitatory through partnership; extending technical capability and networks to further enable Māori aspirations and kaupapa Māori research.
- A modern system should provide a flexible environment to support both Māori and non-Māori researchers to deliver on ‘Vision Mātauranga’, including the appropriate frameworks to recognise, support, promote and protect mātauranga Māori and associated IP.
- Engagement with Māori needs time and ongoing commitment to establish authentic and informed partnerships. Relationships should be based around iwi or organisations, for a holistic view of Te Ao Māori perspectives, upon which future research collaborations can be co-developed. The funding model should allow for the resources required to establish such long-term relationships.
- Regionally based Māori knowledge/innovation hubs should be led by Māori and co-designed around regional opportunities, as well as informed by relevant learnings from previous regional research centres (e.g., CRIs etc.). Risk mitigation around regional competition and duplication of resources will also require consideration. Developments in Te Taihū provide a good example of a Māori-led regional hub initiative.



### 3. Funding

*'We are investigating how to reshape the funding system for the future, to ensure that it gives effect to whole-of-system Priorities, reduces unproductive competition, and ensures our institutions can adapt to changing priorities and respond to emerging opportunities'*

- A base grant funding model should be adopted to provide stability to core functions, which should be determined by the national priorities. Opportunities for contestable funds should be created, with clear indication of priority area(s) to reduce unproductive competition, whilst remaining flexible and responsive to emerging opportunities and changing priorities over time.
- Capability must constantly be directly aligned with the strategic priorities and researchers may require re-training to remain upskilled and relevant, particularly regarding global developments and directions.
- Transparency around both funding criteria and award decisions (including base grants) will be both helpful and necessary, together with clarity on how funders or organisations (for base grants) will evaluate the quality of the capability they fund. Primarily, funds should be awarded (based on demonstrated excellence) to the best researchers, irrespective of the organisation in which they sit (for example a universal PBRF-type system for assessing researcher capability and excellence).
- The new funding model could explore similar models to those overseas to ensure greater clarity and consistency (across different organisations) around science and non-science expenditure; funding of research could be kept separate from the overhead of management and operations.

### 4. Institutions

*'It is timely to check in on the design and organisation of our institutions to make sure we continue to have sound design principles'*

- Organisations should be designed around the sustainable functioning needed to deliver national R,S&T priorities, rather than around their ability to generate profit or commercial outcomes, and should always strive to remain collaborative and agile into the future.
- Organisations could be designed around each of the national, R,S&T priorities rather than the current model where capabilities are spread across many competing different organisations primarily focused on revenue and profitability rather than impact. This would reduce unproductive competition and should enhance greater collaboration nationally and internationally.



- To support a more co-ordinated approach to large property and capital investments, the system needs to change to support sensible capital investment decisions to benefit all of NZ. Any decisions must be grounded in the national R,S&T priorities.
- Shared decision-making with Māori is required to ensure Te Tiriti enabled institutions.
- The future system (and current) requires significant improvement in the mapping of capability to ensure all stakeholders can readily access the appropriate expertise within the research ecosystem, and to prevent competition and duplication of effort and functions.
- The impact generated by organisations requires greater clarity; the current CRI model facilitates large teams working on national problems but not always the IP generation required or spin-out companies for the commercialisation of new innovation. The new system could include such KPIs within its design to help generate greater innovation by all organisations.

## 5. Workforce

*‘Our research workforce is at the centre of a connected, resilient and adaptable research system. We need to ensure the research system attracts and retains excellent talent, whilst offering attractive and flexible careers and career pathways’*

- Workforce considerations in the design of research priorities should be determined by the national R,S&T strategy. Investment should be made in the whole pipeline to ensure longevity in career choices/pathways and to help recruit and retain talented people (i.e., all users of science from academic to industry to entrepreneurship).
- New researchers require stability in the system and continuity of funding to establish themselves and facilitate long-term thinking in research project/programme design. Long-term funding also supports diversity, attracts people from overseas, and helps provide equitable opportunities to achieve a greater balance in the workforce.
- A base grant system, together with robust science excellence and regular evaluations to maintain this (like a national PBRF-like system), give a better degree of security to high performing people who meet the criteria to be awarded a base grant.
- New funding mechanisms, which strongly focus on workforce outcomes, could be designed around both additional financial incentives i.e., for scientific publications (like is the case in many universities in China), as well as greater recognition of the wider contributions from researchers such as commercialisation or generation of new IP. Overall, the system should be inherently linked to science excellence and science quality, as well as growing the pipeline/continuity to build up capability.



## 6. Research Infrastructure

*'We are seeking feedback on future funding, ownership and operational models for research infrastructure, and how we can maximise related investments'*

- Te Ohu Rangahau Kai, Massey University and AgResearch's joint food science research facility based at Massey University in the Manawatū, is a highly successful example of how collaboration on a significant investment in infrastructure can be achieved for national benefit.
- The new system needs to enable similar collaborative initiatives – a global example of a national expertise hub is the Synchrotron in Melbourne. There may also be opportunities for NZ to partner with other international collaborators, for example those related to the EU, adding further support to recent developments after the NZ/EU Trade Agreement.
- The new infrastructure and funding system also needs to facilitate regional collaboration rather than competition to ensure the sustainable success of national research hubs.