

## Submission to MBIE Te Ara Pairangi Future Pathways

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Privacy - 9(2)(a)

Many thanks for preparing this document. MBIE has gained a lot of knowledge through its various reviews, and it is excellent to have this evidence to guide the design.

I agree with many of your points and offer some suggested frameworks to guide the work going forward

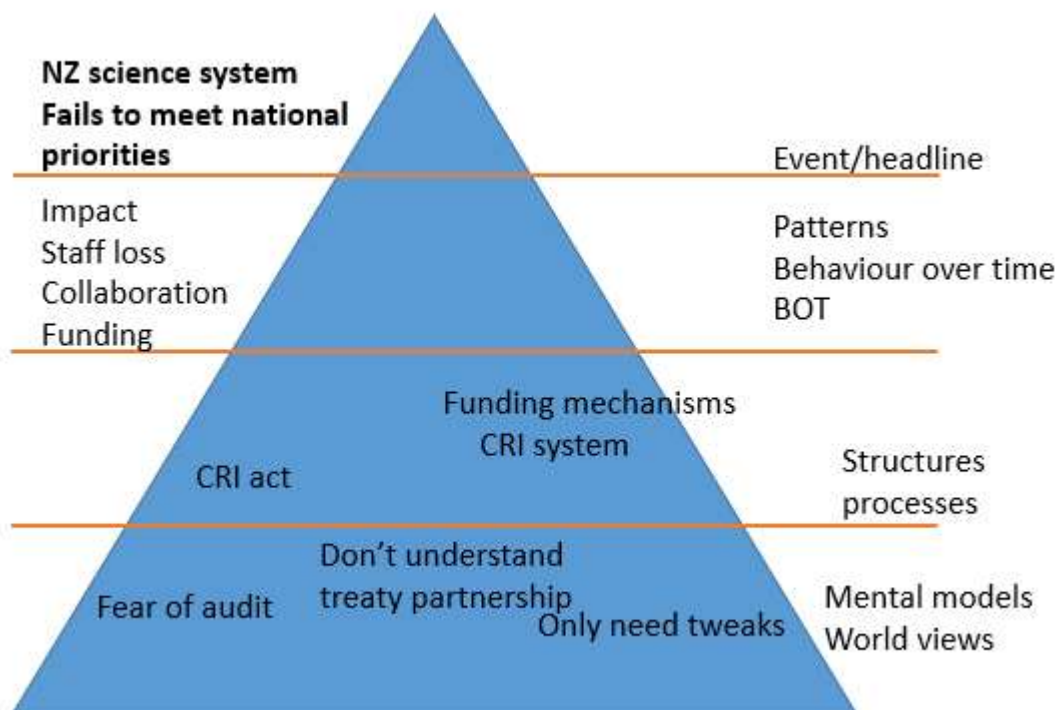
### Systems approach

Key characteristics that start this conversation are that the current system: does not address well national priorities, heavy on competition rather than connections and is not fast enough to respond to changing circumstances.

Taking a systems approach to design will ensure that interventions are targeting the key points in the system (leverage points) that will address the current system issues.

A framework to assist in this exploration is the iceberg approach, an example fig 1.

Fig 1 Iceberg method



The events are the issues that the system is facing. Normally what happens is that people go to immediate solutions without fully exploring how the system is behaving. MBIE have done a great job in gathering evidence to identify the real headline issues and have started to explore the rest. To identify the relationships between issues in the system it helps to spend time looking at the patterns

over time that have been seen. Often these are looked at in isolation however once you draw them and use data to get the general trend you start to see how each influences the other.

Structure, process, and policies underpin those patterns and often, as the proposed reform shows, most of the work to address the headline issues is focused here. So, all the information in this consultation paper is geared towards reforming the structures, process, and policy. What is missing is getting a good understanding of the world views that underpin the current system and if the same people are designing and implementing the new system their world views will dominate the outcome. I therefore strongly recommend you understand the world views driving the change and the expectations of what the new system will deliver.

### **Setting priorities**

Defining the criteria and their weightings and the process to identify priorities is required. This will be context specific, not too onerous, and flexible with different knowledge streams feeding in.

A whole of government approach would benefit the setting of priorities to allow for greater synergy and for research to accelerate the achievement of outcomes. Understanding therefore the policy and sector requirements across the whole system and then identifying the role of research in addressing these is a start to developing a set of criteria to weight priorities against. Research will also feed into this through foresight led thought leadership and a longer-term view connected to the global issues and the ability to lever global knowledge.

If there was an evaluation of the process that was used to engage with New Zealand communities to define the topics of the National Science Challenges, then that may give some lessons regarding the usefulness of that approach.

Foresight will be necessary at a scale that allows for sharing of information nationally and internationally and feeds into priority setting on a regular basis to allow a dynamic system to flourish.

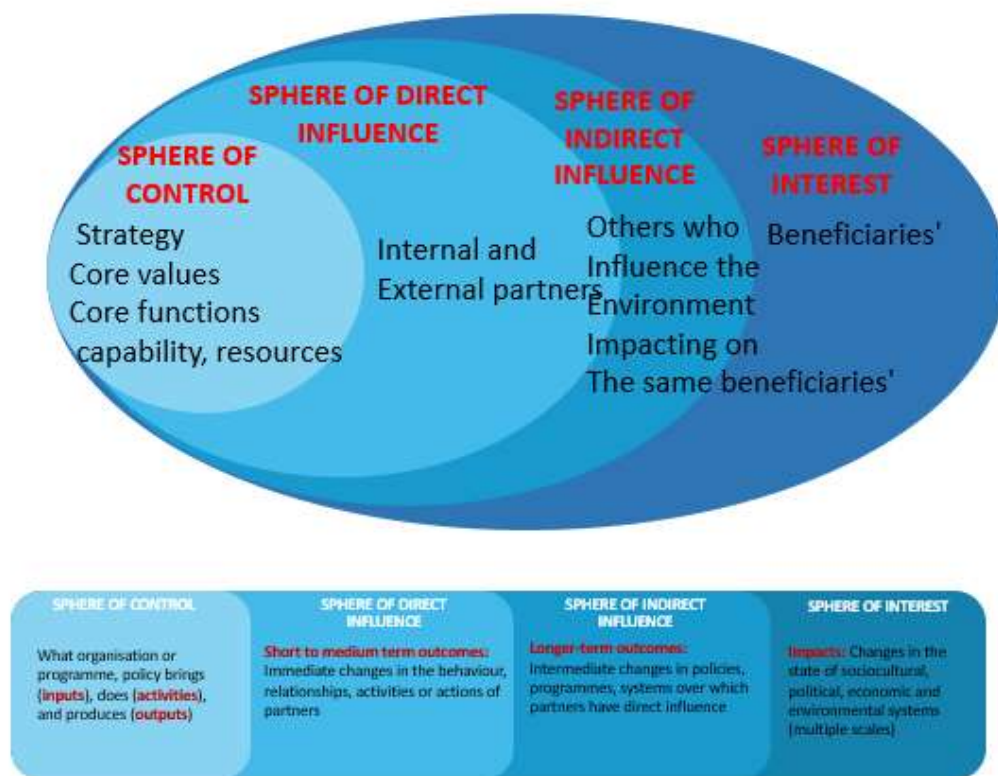
National priorities are not in isolation from the large global challenges and therefore it will be very important not to be too insular but to look out to engage with the world's research community. Ensuring that our science quality meets global standards is increasingly important to demonstrate confidence in science, evidence- based information. New Zealand cannot afford to fall behind in research excellence while still delivering to applied outcomes.

**Strategy setting** can be linked back to the systemic analysis using the leverage points as strategic entry points. You have already listed those e.g., governance, funding mechanisms, work force etc. What would be helpful are good rubrics associated with these points and the fit with one another to check your assumptions that these are the key variables, particularly when you consider the world views of those designing the system and then participating in it and who influence it.

This framework (Fig 2) may assist in thinking about who should participate in priority setting.

Adapted from van ES, Guijt, Vogel 2015. Theory of Change Thinking in Practice. Hivos, The Hague, The Netherlands

Figure 2 Spheres of Influence



### Te Tiriti and Mātauranga Māori

Delighted to see this as it does need to be a strong platform led by Māori benefiting all of Aotearoa. This confers a real uniqueness to the approach of New Zealand without this there will be no real impact. However, this is an intergenerational aspiration and expectations will need to be aligned to this and other forms of operating. It will be very important to check the mental world views of those designing and then implementing so that appropriate key performance indicators are identified. I think it would be helpful to engage with other Ministries who have all got relationships with Māori at the ground roots level and these people are fabulous brokers into Māori communities e.g., MPI Māori Agribusiness Group.

### Base funding

I suggest that MBIE contact international organisations that are already utilise the base funding model, to identify what is working and any unintended consequences. (In my role as AgResearch international ambassador, AgResearch is currently gathering views from TEAGASC, INRAE and CGIAR to put into their submission).

## **Institutions**

Being very clear about what the future system delivers in the sense of outcome and impact cannot be overemphasised. Taking time to gain clarity from those who are influenced directly, indirectly and of passing interest to these outcomes will be necessary to align world views and get buy in (see figure 2).

The policies and governance structures can then be tested to deliver the outcomes and to explore the unintended consequences of all the new pieces working cohesively together. Again, looking to international organisations to see what is working well and particularly innovation companies that operate in an agile way may be of benefit. The treaty will be central to any design of institutions.

Looking at the future of diversification of land use. It would make sense to align institutional missions with the reality of mixing productive land enterprises now within one business unit. The interconnectedness of food production along with landscape management for water quality and biodiversity and associated new governance arrangements at farm and landscape scale to manage this complexity are happening now.

The history of New Zealand's productive landscape has been built on scientific led advances. When the greatest benefits were seen there was a close synergy between research and end users. That has dissipated over time with various government reforms. It is essential that research connects to these end users to have impact and therefore funding mechanisms and organisational design must reflect this.

Missing from the document is the requirement to build evaluation into all aspects of the system. This evaluation in real time will enable a learning environment and allow for adaptation on the go.

## **Work force**

Priorities and foresight should drive the capability requirements not the other way around.

There must be a line of sight from tertiary education into the research system to ensure that people are prepared for the environment that they will meet as a researcher.

It will be important to allow for the easy transfer of people between institutes particularly science/ policy/science end user sector and science/on the ground practitioner. A life- long learning approach is required to allow for the ability to move where the new issue needs addressing. However, this approach will not suit all people with skills research requires, HR processes aligned across the system will need to be able to enable a diversity of pathways.

Ensuring respect throughout the system for different scientific approaches will be key to success. Acknowledging the role of citizen science, Mātaurang Māori, experiential knowledge while ensuring the rigour and evidence base required to give confidence in messaging will also be important.