Call for Research Proposals

OLW Contestable Funding Round 2022

Purpose

To seek proposals for research addressing key questions posed in this document. The total value of the fund is approximately $5million. OLW is seeking to invest in research scoped as either a;

- "**Think Piece**" - a desktop study with stakeholders, to produce an output that answers, explores and/or refines the research question(s) as appropriate, valued up to $100k and with a duration of up to 6 months, or
- "**Research Programme**" – research with stakeholders to produce outputs that directly answer specific research questions, valued up to $1million with a duration of up to 18 months.

Process

The deadline for proposal submission is the ***31 March 2022.***

Applicants are encouraged to contact OLW to discuss their application, ahead of submission, so they can be made aware of other related research known to the Challenge and given guidance as appropriate. It is critical that all proposed research considers and genuinely gives effect to Te Ao Māori, to the degree appropriate for the topic being addressed and scope of the research. Research with no relevance to Te Ao Māori is unable to be funded by OLW.

Research proposals need to adhere to the standard OLW research proposal template, which guides applicants to provide the required information on their research, its connection to Te Ao Māori and how they will ensure effective impact in the resource management and agri-food and -fibre sectors.

Key questions to be answered are posed under particular topic areas (see below) and proposals may seek to address one, some or all of these questions listed for a topic area. Research teams can propose alternative topic-relevant research if they wish, but a strong affinity with OLW principles (refer OLW website) and strategic priorities for research (see Fig 1) will need to be demonstrated.

Applications will be assessed by the Directorate initially, then short listed proposals will be assessed by the OLW's international Stakeholder and Science Advisory Panel (SSAP) before the end of April 2022. Successful applicants will then be contracted via OLW's standard process with the aim of having all contracts finalised and signed off with a start date no later than 1 July 2022.

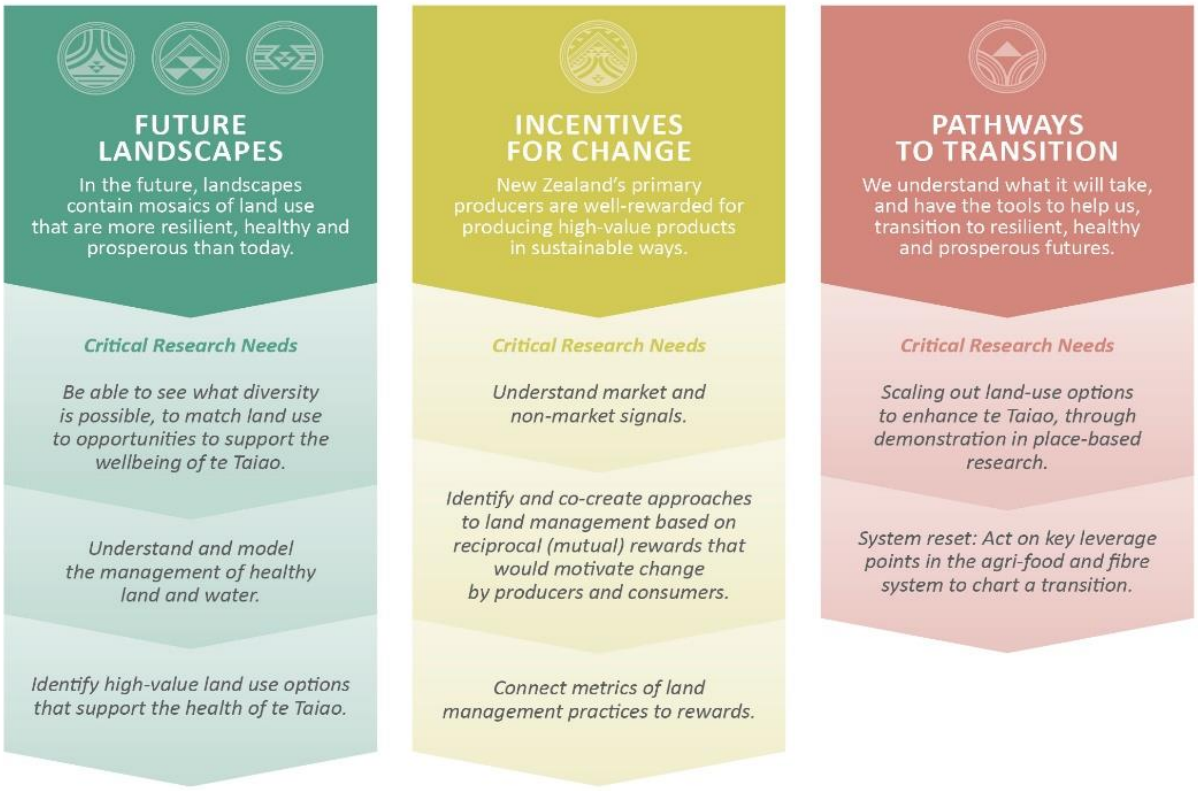

Figure 1. *The three themes for OLW research, and their critical research needs (OLW NSC Strategy 2019-2024, and OLW Research Workplan Update 2020).*

Topics and Key Research Questions

A. EFFECTS OF GLOBAL DISRUPTIONS OR TRENDS ON LAND-USE DECISIONS

New Zealand is, and will continue to be, subject to international events that disrupt export markets. This can lead to either an increase or decrease in the demand for our primary produce. We have broken these events into three sub-topics, which can be addressed collectively or individually.

1. A global environmental event affecting domestic markets for primary produce

This could include natural disasters (including changing climates) or pest or disease outbreaks wiping out significant croplands or zoonotic disease affecting livestock and human health, for example. Such events would affect food availability and affordability in our domestic markets. Key questions include:

a) In responding to an adverse event, how much of an increase or decrease in demand would be needed to create significant change that meant land use would change?

b) Which industries are best prepared to accommodate and protect this change with technologies?

c) Would these changes likely occur fast (<5 years) or slow (>10 years)?

2. The development of alternative and plant-based protein systems

New Zealand ruminant-based agriculture could potentially experience significant disruption from a global shift to alternative-proteins, including plant-based food systems, but this shift could offer new opportunities to respond to current pressures on ruminant-based agriculture. Key questions include:

a) What are the opportunities from a shift to any of the viable options for plant-based protein, to address social, environmental, cultural, and economic issues associated with ruminant-based agriculture systems for New Zealand?

b) What is the implication of such a shift in food production for Māori (producers and consumers) and does this fit within Te Ao Māori?

3. Environmental constraints in our trade agreements

New Zealand's international trade agreements are increasingly including clauses about environmental concerns such as greenhouse gases, climate change, water quality, biodiversity and endangered species. Our access to some international markets could be compromised if we are unable to meet new environmental obligations in trade agreements. Key questions include:

a) What is the potential exposure of the land-based sectors to disruption from environmental commitments made in trade agreements?

b) How could land-based production sectors prepare for this possibility?

Note that short-term climate change initiatives (such carbon-zero forestry) would not be included in this topic.

B. THE PACE AND LONG-TERM CONSEQUENCES OF LAND-USE CHANGE

Most farm systems have developed over decades to slowly optimise their production systems in response to demand. However, the cumulative effects of new policies to limit climate change and water quality degradation of Te Taiao, to increase compliance with Te Tiriti, and changing trends in food consumption, may increase the pace of land-use change. If policy forces change too fast, food production may become uneconomical. Likewise, adverse effects may arise if land-use change happens too rapidly without due consideration of the environmental and socioeconomic and cultural effects. For example, a rapid transition from intensive dairy farming to a crop monoculture or intensive forestry may not lead to the anticipated improved environmental outcomes.

Providing land stewards in high-risk catchments (i.e., those where mitigation will not address policy requirements) with pathways to transition to land-use with better socioeconomic and environmental footprints is key to sustainable change. Key questions about these pathways include:

a) What is the relative influence of different factors in forcing the pace of land-use change in Aotearoa? Possible factors include changes in export-markets, domestic consumer demand and policy development and should be considered for at least three agricultural regions of Aotearoa. This should include regions of variable affluence.

b) What are the long term environmental (including climate-change) consequences of alternative land-use scenarios, in those areas where natural resources (soil & water) are currently under the greatest pressure from inappropriate land-use? This could include

alternatives to intensive dairy farming in Canterbury, Southland and Hawkes Bay, for example, and/or to forestry in erosion-prone catchments or those in which it is socially or culturally undesirable.

Note that these research questions seek to build on research on land-use change options and opportunities, which is already underway at OLW. Communication with the Challenge when preparing a research proposal is essential.

C. UNDERSTANDING THE SOCIAL LICENSE TO FARM

Urban food consumers have a range of views on farmers and the food & fibre production processes. These range from an appreciation of the different options for food production and their nutritional merits, to concerns around food availability, affordability, quality, animal welfare and the adverse effects of food production on te Taiao. Farmers also subscribe to a range of views on how much urban consumer opinions matter, and how much they should shape future farming decisions.

Collectively, these views, and how they are balanced, make up the main component of the social licence to farm in Aotearoa. In order to shift this balance in favour of food production which benefits all New Zealanders and Te Taiao, we need to understand more about how this balance is struck. The development and management of the peri-urban zone is often a focus for tension between these different perspectives, but also has the potential to generate an improved mutual understanding.

Key questions include:

a) Do New Zealand agri-food producers and businesses feel a responsibility to feed New Zealanders? What roles and responsibilities do agri-food producers and businesses believe they have, or should have for New Zealand versus export markets?

b) Can the evolution of farming methods over the last 50 years and changing urban consumer views be used to create increased social licence for future farming?

c) Can initiatives to physically connect consumers with farmers, such as “Open Farms”, change hearts and minds of urban consumers, and if so (evidence?), what is the best mechanism for this?

d) Can a more prescribed development of the peri-urban zone foster mutual awareness and understanding, and what would this look like?

D. A STABLE, PUBLICLY ACCESSIBLE DIGITAL PLATFORM FOR LAND AND WATER MONITORING DATA AND TOOLS

The problem of how to make monitoring data and tools, such as maps and models, publicly available via a stable, easy to navigate digital platform has yet to be solved. All such data platforms are either short-lived, lacking resources to update and maintain them, or severely constrained by data quality control, resourcing and proprietary or privacy issues.

As community monitoring data are collected in greater abundance, and open sourcing of science information becomes more common, this must be addressed if the data and tools are to be widely used. We seek to address this for information of relevance to the agri-food & fibre sector, and for related natural resource management.

Key questions include:

a) How do we make these data/tools equally relevant and accessible to Māori and non-Māori agribusiness?

b) How do land stewards and agribusinesses currently access and use digital resources?

c) How could hosted digital data and tools maintain relevance by interacting with policy development and events in the short term (<5 years) and longer term (>10 years)? For example, *M. bovis* and the MPI response have had impacts on the development and use of NAIT.

d) What are the digital infrastructures and institutional arrangements, required to provide a 'shop front' approach for prospective data users, with a single point of entry to multiple (targeted) information and datasets? (Including metadata and links to other platforms)?

e) What are the options for funding the maintenance of such a platform? When answering this question please provide a business case, considering different institutional hosts.

Key templates and contacts for OLW

Links to the OLW Think Piece and Research Proposal templates for this contestable fund are:

Think Piece: CFR 22 Think Piece Proposal Template.docx

Research Programme: CFR 22 Research Proposal template.docx

Please use these templates, NOT the generic research proposal template available via the OLW website.

Proposal Submission before 31 March 2022, via the following link:

https://app.smartsheet.com/b/publish?EQBCT=a34a2d2154d647399d0296c304236152

General enquiries to: Ourlandandwater@agresearch.co.nz

Enquiries regarding research to: richard.mcdowell@agresearch.co.nz

(OLW Chief Scientist - Richard McDowell

Further Information and resources for researchers are on the OLW website:

- OLW principles, strategy and general information. About - Our Land & Water - Toitū te Whenua, Toiora te Wai (ourlandandwater.nz)
- OLW past and current research: https://ourlandandwater.nz/ under "Our Science" menu
- OLW resources for researchers: Resources for Researchers - Our Land & Water - Toitū te Whenua, Toiora te Wai (ourlandandwater.nz)