Next Generation Systems

Robyn Dynes

FUTURE LANDSCAPES

In the future landscapes contain mosaics of land use that are more resilient, healthy and prosperous than today.

Strategic Area 1

Be able to see what diversity is possible and match land use to what it is suitable for.

Strategic Area 2

Understand and model the management of land and water quality.

Strategic Area 3

Provide the novel production systems that use healthy land and water to generate high-value products.

INCENTIVES FOR CHANGE

New Zealand's primary producers are well-rewarded for producing high-value products in sustainable ways.

Strategic Area 4

Capture and share with the producers more of the value consumers associate with our products.

Strategic Area 5

Increase and share value based on mechanisms that rewards sustainable land use and high-value products.

Strategic Area 6

Enable communities to identify and adopt sustainable land use practices.

CAPACITY FOR TRANSITION

We understand what it will take, and have the tools to help us, transition to resilient, healthy and prosperous futures.

Strategic Area 7

Increase our social capital so that we can have well informed debate about alternative futures.

Strategic Area 8

Act as kaitiaki, being responsible for our actions within enterprises, in a catchment and beyond.

Strategic Area 9

Manage pressures and remove the barriers to a transition.

OUR LAND AND WATER SYMPOSIUM
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FUTURE LANDSCAPES

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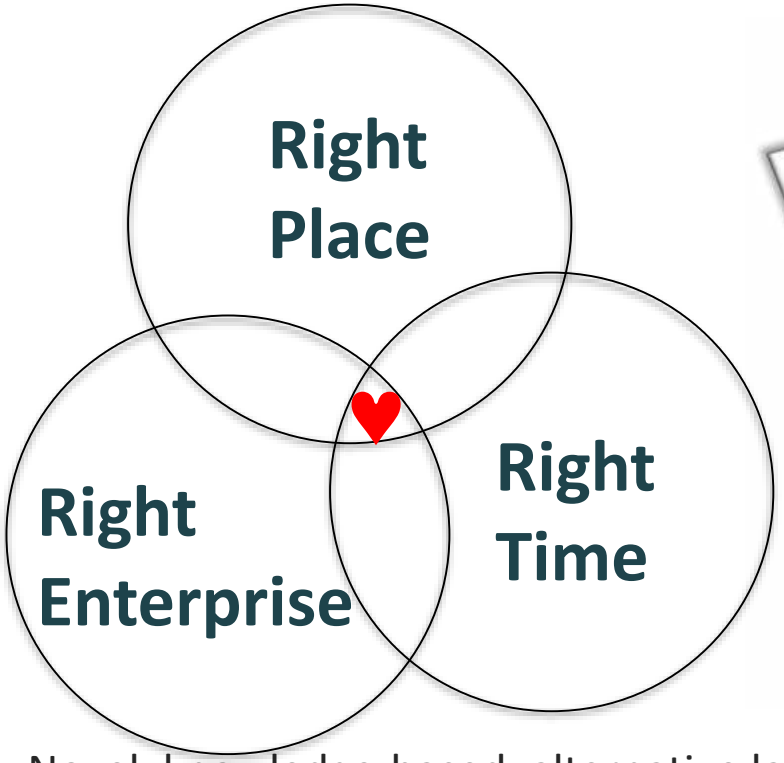
What is the problem?



Novel, knowledge-based, alternative land use systems, referred to hereafter as Next Generation Systems (NGS) exist that could relieve environmental and social pressures, the challenge facing New Zealand is how to achieve a timely transition to these systems at any meaningful scale.

Land-use change is inherently risky.

NGS seeks to derisk and accelerate land use change

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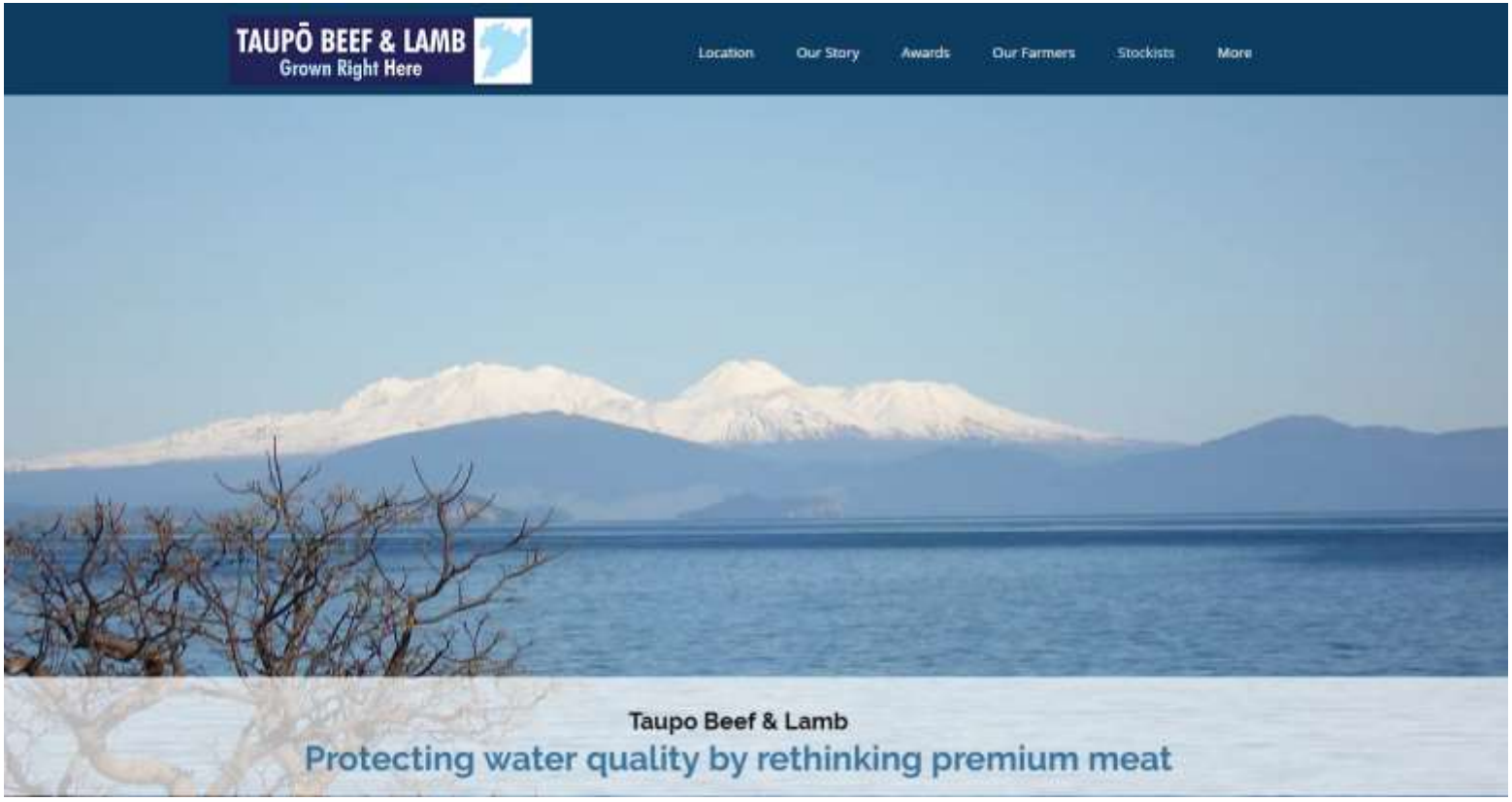
What is the solution?

More value….



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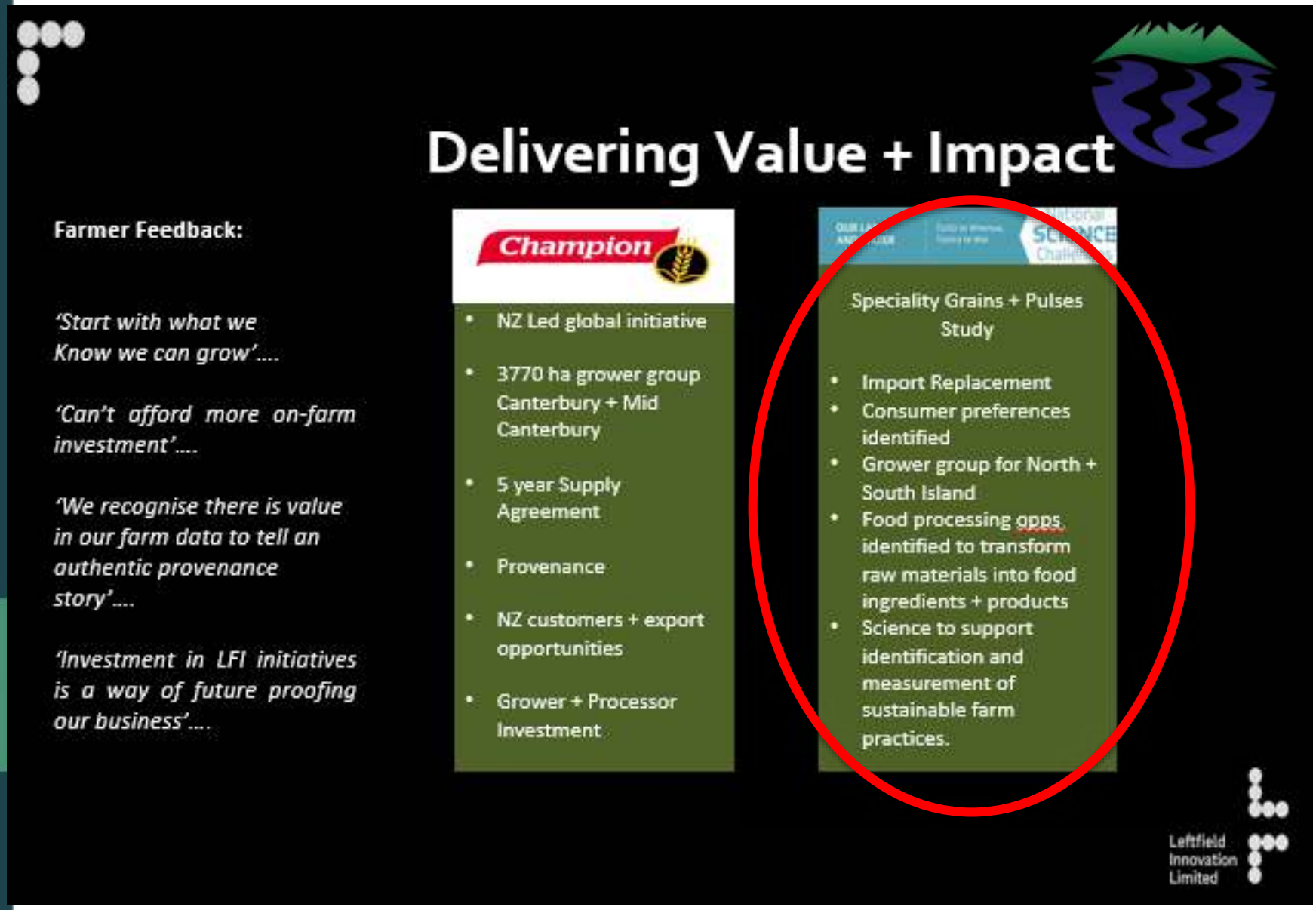
More value……



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FUTURE LANDSCAPES

Land-use + enterprise diversification

Drumpeel Farm

THE FARM

- Drumpeel Farms, Otane, Hawke's Bay.
- 1960 effective hectares (including leased land) taking in breeding stock, finishing lambs and cattle, with 700 hectares cropped each year. About 310 hectares are irrigated.
- Main crops include wheat, barley, herbage seed, maize, peas, sweetcorn and squash, and some vegetable seed crops are also grown.
- Soils range from clays to sands, loams and peat.
- 20 000 stock units wintered, 1000 R2 bulls and 20 000 trading lambs.
- Annual rainfall of 800-850mm.

THE FAMILY

- Drumpeel Station is owned by the Drumpeel partnership and farmed by Hugh and Sharon Ritchie.
- Hugh is Chairman of the Primary Sector Water Partnership, and a founding member and Chairman of LandWISE, a sustainable cropping group in Hawke's Bay. Hugh was previously a Federated Farmers board member with responsibility for water issues at a national level.

HAWKE'S BAY CROPPING FARM
Optimising irrigation efficiency in a d

www.ourlandandwater.nz

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FUTURE LANDSCAPES

Land-use + enterprise diversification

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Land-use transformation

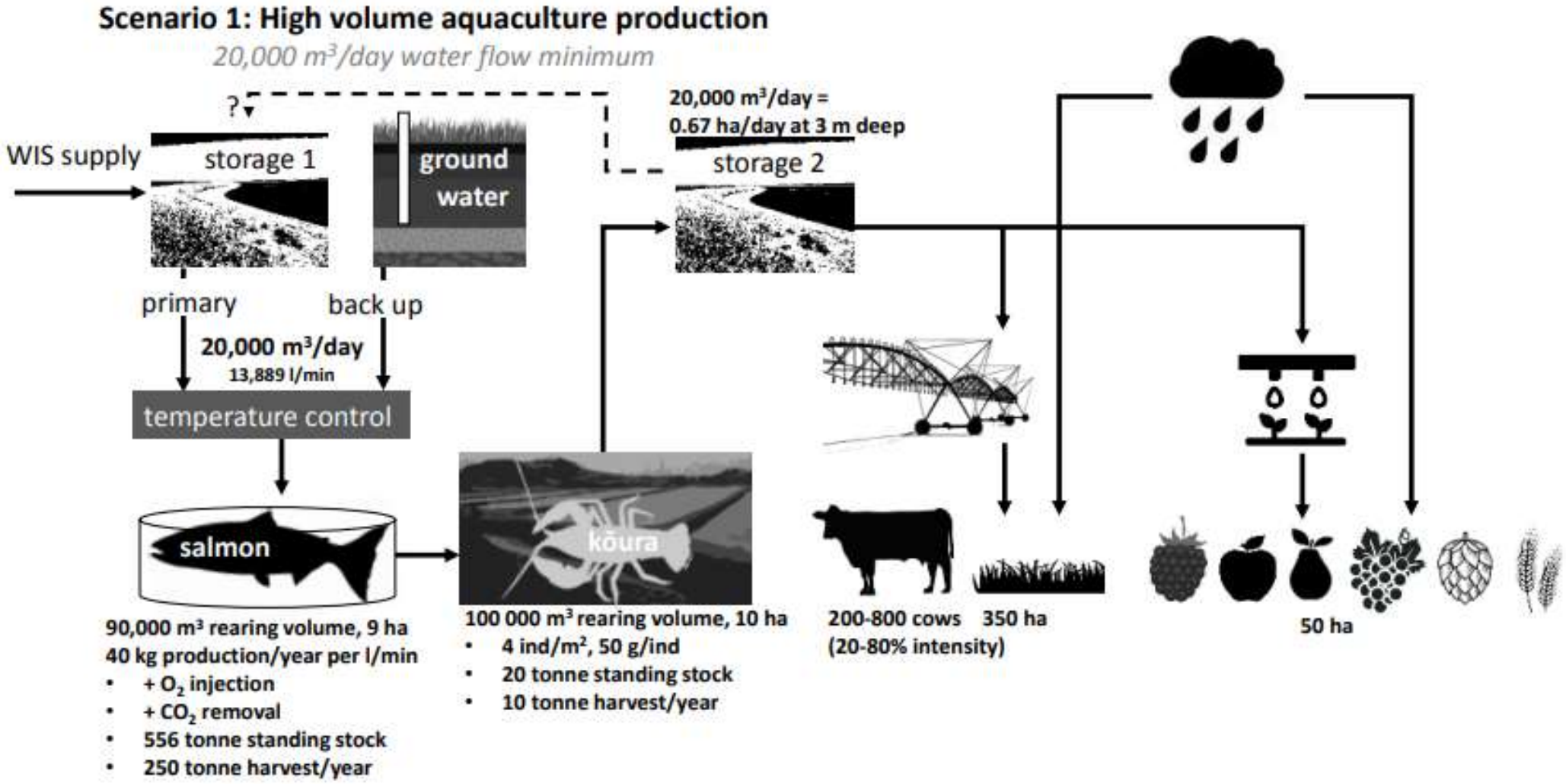

Figure 32. Eyrewell Farm diversification: Scenario 1.

From: Moran et al 2019

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Who is using the research to make a difference?

- ❑ More value
- ❑ Land use diversification
- ❑ Land use transformation

- ❑ More diverse landscapes
- ❑ New farming systems

Land owners and managers

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How is it building towards the Our Land and Water goal?

- Understanding the drivers of land managers to:
  - support the process of adoption of NGS
  - Bring science to SOME gaps
  - Identify the science gaps

directly contributes to the objective of Our Land and Water '**to enhance the production and productivity of New Zealand's primary sector, while maintaining and improving the quality of the country's land and water for future generations'**

In the process we are derisking and accelerating land use change

Collaborators

Some of our Collaborators

ROTOMĀ NO.1 INCORPORATION

PĀMU FARMS OF NEW ZEALAND

NGĀI TAHU Farming

Leftfield Innovation

TAUPŌ BEEF & LAMB Grown Right Here

Drumpeel Farms

Team

Robyn Dynes (AgR)

Paul Johnstone(PFR)

Warren King (AgR)

Lania Holt (Scion)

Alan Renwick (LU)

Toni White (PFR)

Susan Goodfellow (Leftfield)

Nick Pike (Leftfield)

Damian Moran (PFR)

Matthew Wylie(PFR)

Benie Chambers (PFR)

Mark Lokman (UO)

Bruce Smallfield (PFR)

Brent Clothier (PFR)

Richard Yao (Scion)

Djan Firm (Scion)

Farmers who are part of Central Plains Water Scheme

More Information

Some Further Background

https://ourlandandwater.nz/future-landscapes/next-generation-systems/

Some Papers

https://tinyurl.com/olwforest

https://tinyurl.com/olwngsframework

noslam

North Otago Sustainable Land Management

Collectively enhancing North Otago's Land, Water and Community Resources