



# FUTURE LAND USE

STEVEN CARDEN  
CEO  
PĀMU

**PĀMU**

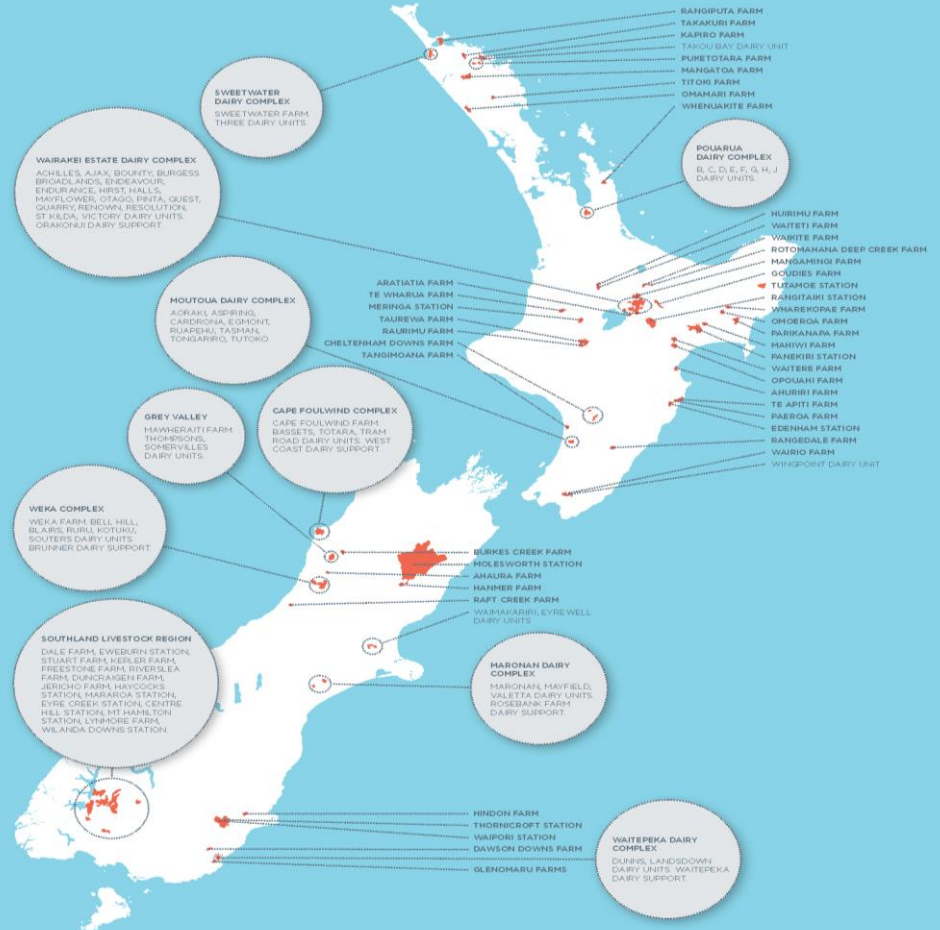
FARMS OF  
NEW ZEALAND

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# INTRODUCING PĀMU

## NEW ZEALAND'S LARGEST FARMER

- 130 years old
- New Zealand's largest farmer, with 125 farms across the country and assets of almost \$2 billion;
- 100% government-owned;
- Manages 158,652 ha of land it owns, and a further 214,858 ha for other owners including iwi;
- 1,480,620 cows, sheep and cattle.
- 6.5K Ha of forestry and growing









# A HISTORY OF LAND INTENSIFICATION

Land intensification ...



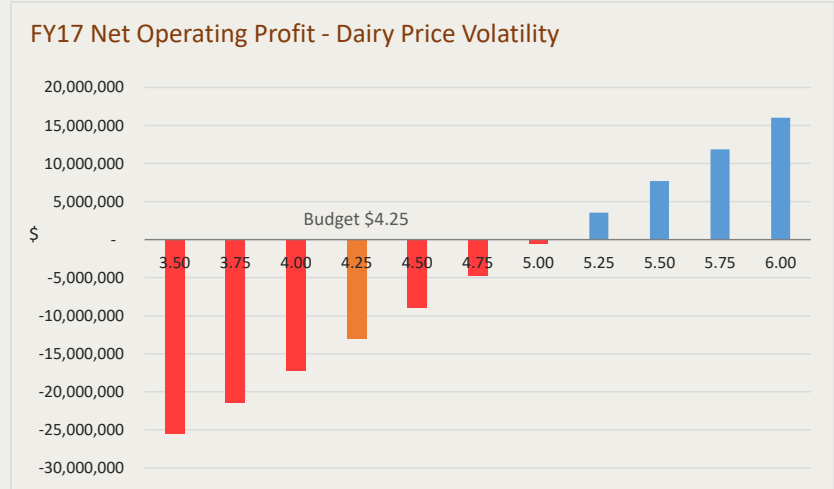
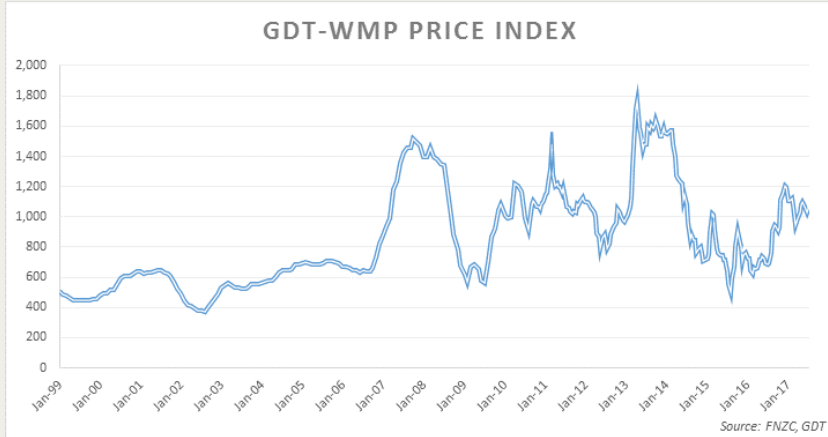
... has created strong farming sector

- 2.0%/annum productivity lift
- Substantial and sustained lift in land values and export earnings

... but at the expense of resources



# INCREASING VOLATILITY AND FINANCIAL RISK



# THE WALL STREET JOURNAL.

**Meat on the Side: Modern Menus Shift the Focus to Vegetables**





MOST  
PROTEIN  
WILL  
COME  
FROM  
PLANT  
SOURCES  
IN THE  
FUTURE





# SOME VERY BIG INVESTMENTS IN PLANT-BASED FOODS



**\$12  
BILLION**







THREE THINGS  
TO CONSIDER  
FOR THE FUTURE

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# CHANGE 1:

THINK ABOUT LAND  
USE DIFFERENTLY

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# BE OPEN AND HONEST ABOUT OUR FARMING FOOTPRINT



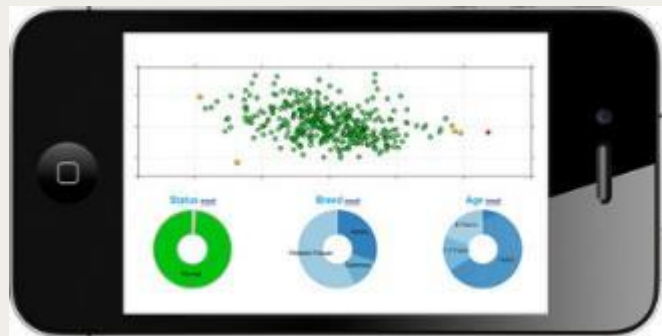
Farming consultant Dr Alison Dewes has been especially active in trying to mitigate pollution in the Waikato River.



DAIRY ENVIRONMENTAL IMPACT ASSESSMENT Broadlands Dairy - 2015/2016						LANDCORP NEW ZEALAND				
	DEFINITION	1. LOW RISK - EXCELLENT PERFORMANCE	2. LOW - MEDIUM RISK	3. MEDIUM RISK	4. MED - HIGH RISK	5. HIGH RISK - NEEDS ATTENTION	Risk Rating	National Best	Regional Best	
Productivity Measures	EBIT per KG of N lost to water		\$33.64				2	\$97.08	\$40.33	
	KG MS per KG of N lost to water				21.49		4	126.25	31.15	
Efficiency Measures	GHG KG per KG MS	10.77					1	10.04	10.04	
	N conversion efficiency %			26			3	36	30	
	KG fertiliser N applied per ha				219		4	82	129	
Nutrient Risk Measures	KG N lost to water per ha				49		4	5	22	
	KG P lost to water per ha					2.90	5	0.40	1.00	
Effluent Management	KG N/ha applied as effluent on effluent block					149	5	20	20	
	KG N/ha applied as effluent + fertiliser on effluent block			214			3	110	156	
	% Effective Area receiving Effluent				15		4	45	28	
	Dairy effluent storage risk assessment	1					1	1	1	
Soil Quality & Protection	% Effective Area in Slope >7°	1.79					1	0.00	0.56	
Waterway Management	% SDWA fencing completed	100					1	100	100	
Sustainability	KG PKE per cow wintered				287.42		4	0.00	53.09	
Biodiversity Support	% non-Effective Area					2.95	5	37.20	37.20	
Adapted from: Dewes, A. M. (2014). Economic resilience and environmental performance of dairy farms in the upper Waikato region. (Masters Thesis).							Risk Rating	47	24	40



# EMBRACE PRECISION AGRICULTURE



# Inputs



# Outputs











**CHANGE 2:**

**GO NICHE!**

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# DEVELOPING NEW PRODUCTS AND NICHE, HIGH VALUE INDUSTRIES

EXAMPLE: Pāmu's organic and grassfed dairy product range



- Based on less intensive farming systems with higher value outputs
- The result is an environmental and economic win
- Product promotes non-GMO, PKE-free, no antibiotics ... all product features consumers desire and we can produce

# DEVELOPING NEW PRODUCTS AND NICHE, HIGH VALUE INDUSTRIES

EXAMPLE: Pāmu's Spring Sheep milk company joint venture



**SPRING SHEEP™**  
— MILK CO. —  
*New Zealand*



- Sheep milk farm systems have a nitrogen leaching level 30-50% lower per hectare than cow systems
- Premium product pricing 50-100% above cow milk in Asian retail markets



FINALIST  
NEW ZEALAND  
INNOVATION  
AWARDS\* 2016





# FOOD FOR HEALTH – THE RISE OF FUNCTIONAL FOODS



# CHANGE 3:

SUPPLY CHAIN  
INFRASTRUCTURE  
REQUIRED

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# NEW PRODUCT INNOVATION – DEER MILK COSMETICS



# DEER MILK BUSINESS DEVELOPMENT ECOSYSTEM

This is what it takes to create a new industry...



## Roles

- Farm owners / operators
  - Seasonal farm workers
  - Local tradespeople
  - Waikato Milking Systems
  - Animal feed suppliers
  - Local Vets
  - Chemical suppliers
  - Project Manager
- Halls Transport
  - Metro Urgent Couriers
  - Plastic Pallet & Pod suppliers
  - Cardboard box suppliers
  - Plastic bladder suppliers
  - Icepak Storage
- Massey FoodPilot
  - FoodBowl Auckland
  - Hansells Packing
  - Urban Botanica
  - Innovation Ltd
  - Freeze Dried Foods
- Ideation
  - Funky Caterpillar
  - Marketing & branding
  - Latitude
  - Hankook Research Ltd
  - Korean Companies
  - NZ Restaurants
- Asure Quality
  - AJ Park Legal
  - MPI Regulatory
  - Innovation Waikato
  - Catalyst Consulting
  - Kate Slinn Consulting

## R & D; Technical Support

- AgResearch
  - MilkTest NZ
  - Efttech Consultants
- AgResearch
  - MilkTest NZ - NPD commercialisation
  - Massey FoodPilot
- Geoff Scott - Foodservice
  - Lewis Tucker - Financial analysis

## Other

- AgMardt Funding
- AgResearch Core Funding
- Landcorp teams: sales & marketing, commercial, farm innovation, finance, procurement, health & safety



THANK YOU

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