Layers of Resilience

Adaptation to drought and climate change in the Northern Victorian dairy community

Enhancing the resilience of dairy farm businesses

Project aims:

- Explore the implications of resilience thinking for extension activities
- Develop and implement strategies to enhance the resilience of dairy farmers
- Help set a capacity building agenda in the dairy industry

- *A resilient farm can cope with fluctuations in prices (of inputs or outputs), variations in climate, and changes in the human resources available to it; furthermore it can recover from these challenges and learn from them. Minor fluctuations are treated as 'business as usual' rather than cause for alarm.*

- *A resilient farm also has some flexibility within its systems, so that it is can adapt to changing conditions without shifting to an entirely new type of system. For example, it is possible to substitute readily available resources for less available ones without system redevelopment (e.g. substitution of grain for irrigation water).*

- *A resilient farm has a resilient resource base (people in the business are not burnt out; pasture is not overgrazed); and is part of a resilient food chain and landscape ecosystem.*

Enhancing the resilience of dairy farm businesses

- Three case studies of dairy regions facing significant challenges:
  - Drought (climate change?) in the Goulburn Valley, Victoria
  - Farm succession in Tasmania
  - Environmental management in the Manning Valley, NSW

Adapting to drought and climate change in the Goulburn Valley

- Focus on 2006-07 season

- In-depth qualitative study
  - Interviews with dairy farmers and dairy industry service providers
  - Engagement with drought response activities

What is a dairy community ‘resilient to climate change’?

- What is the challenge…
  - Drought
  - Or climate change?

- Which systems are we concerned about…
  - Individuals
  - Families
  - Businesses
  - Local community
  - Regions
  - Service businesses
  - Infrastructure
  - Industry

Adaptations

Focal system	Drought	Climate change
Individual	Counselling	Counselling?
Family	Food packs Assistance with household bills Children delaying entry to tertiary education	
Physical farm system	Buying feed Buying water Cow parking Culling cows Support for planning for seasonal conditions	Investment in improved water efficiency
Farm business	Selling water Reducing staff Working longer hours Debt Exceptional circumstances payments	
Local community	Drought barbeques Pamper days	Local community development plans
Regional industry	Development of service provider networks	
Irrigation district		

Adaptation dilemmas

- managing drought or adapting to climate change
- collective consequences of individual adaptations
- tension between individual and family well-being, and the strength of the farm business

Drought or climate change?

- Urgent, rapid and comprehensive industry response to drought
- Drawing on experience and capital reserves
- Limited longer term adaptation
  - Farmers constrained by beliefs (drought cycle rather than climate change), life stage, and/ or time and expense of drought response
  - Service providers constrained by time spent on drought, fear of overwhelming farmers by talking longer term

Collective effects of farm adaptation

- Individual decision making… collective impacts on irrigation infrastructure
- Tension between individual good and an ethic of caring for neighbours
- Skepticism of industry messages

Personal wellbeing and business viability

- *"I looked at those three options [for getting through the season], and the way I describe that is, the first one [milk through] will break me financially, the second one [reduce herd size and retrench employees] will break me physically, and the third one [sell all stock] would break me emotionally."* [Farmer GV01]

- Technical support for farms and businesses; but little support for individual and family shifts in identity

Lessons for adaptation

- Multiple scales; design responses need to consider where the adaptation challenges are not just where we've always worked
- Deliberation about which systems to address and why – who benefits and who loses
- Shift from coping to adapting – in the context of continually managing a crisis situation

Program of research (1)

- Informed by resilience thinking
- Focused on the capacity of people in rural industries to adapt to climate change (physical effects) and associated policy changes (eg ETS)
- Directed towards better support for adaptation

Program of research (2)

- Enhancing the resilience of dairy farm businesses
- Victorian Climate Change Adaptation Program - Practice Research module
- Farms Rivers and Markets
- Changing Rooms

Research Questions
Adaptation to climate change

- How do current practices (land holders; researchers; extension; industry…) contribute to adaptive capacity?
- How does the interaction between practices contribute to adaptive capacity?
- How can we enhance adaptive capacity through an understanding of current practices?