Understanding implementation of conservation practices by rural landholders

The presentation draws on a large body of theory and substantial empirical research in Australia where the author has explored the implementation of sustainable farming and biodiversity conservation practices by rural landholders. This research includes an important synthesis paper (Pannell *et al*) that provides a robust theoretical framework for those wanting to explore this topic. There are papers and technical reports describing research in specific contexts. Specific studies have included river frontages in the Goulburn Broken (2002 and 2007), riparian land in Tasmania (2008–09 as part of Landscape Logic) and a series of regional-scale studies for NRM organisations in Queensland, NSW and Victoria (2001–2008). This research provides valuable insights into the scale of landholder implementation of conservation practice; the relative influence of government programs on landholders; the contributions of specific interventions; and some of the constraints to implementation. The presentation will also highlight the influence of trends to high levels of rural property turnover and to non-farming landholders.

Participants at a 'Rapid Appraisal' workshop held in Chiltern, north-east Victoria, in November 2008, discuss the drivers that have shaped native vegetation change in their local area from 1946–2004 with Landscape Logic researchers Digby Race and David Duncan.

Relevant publications

Curtis A, Race D, Sample R and McDonald S (2008) *Management of water ways and adjoining land in the Mid-Goulburn River: landholder and other stakeholder actions and perspectives*. A report to the Goulburn Broken Catchment Management. Institute for Land, Water and Society, Report #40, Charles Sturt University, Albury, NSW.

Curtis A, McDonald S, Sample R and Mendham E (2008) *Understanding the social drivers for natural resource management in the Wimmera region*. Institute for Land, Water and Society, Charles Sturt University, Albury, NSW.

Pannell DJ, Marshall GR, Barr N, Curtis A, Vanclay F and Wilkinson R (2006) Understanding and promoting adoption of conservation technologies by rural landholders. *Australasian Journal of Experimental Agriculture*. 46 (11): 1407–1424.

Curtis A, Byron I and MacKay J (2005) Integrating socio-economic and biophysical data to underpin collaborative watershed management. *Journal of the American Water Resources Association*, 41 (3):549–563.

Curtis A and Robertson A (2003) Understanding landholder management of river frontages: the Goulburn Broken. *Ecological Management and Restoration* 4(1):45–54.

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Day 1, 10.15am

Area of work: Social research for regional natural resource management.

Specialty: The role of local organisations in watershed management, the adoption of conservation behaviours by rural landholders and the evaluation of natural resource management programs.

Take-home messages:

Social research can make a valuable contribution to the design and implementation of successful environmental management programs. In particular, well designed social research can help us understand:

- The extent to which landholders have implemented conservation practices
- Their motivations for doing so, including the relative influence of government programs amongst other influences
- The land managers view of which interventions have been most effective in the past and why
- How demographic change is affecting what we have traditionally regarded as agricultural landscapes.

LANDSCAPE LOGIC
LINKING LAND AND WATER MANAGEMENT TO RESOURCE CONDITION TARGETS

Understanding implementation by rural landholders:

Bridging the gap between policy and management

CHARLES STURT UNIVERSITY

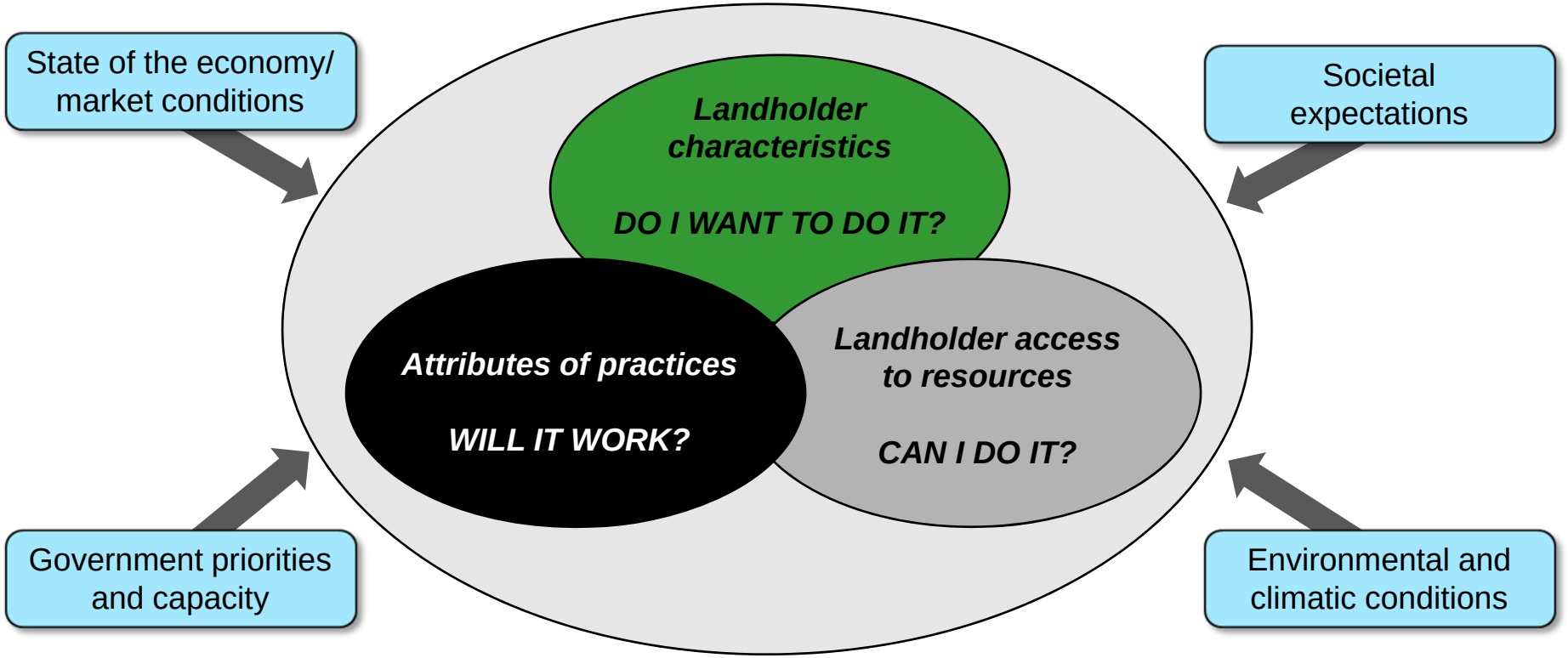
Professor Allan Curtis
Charles Sturt University

Introduction

1. The theoretical framework
2. Most work unfunded
3. Levers that work and and what you need to consider but you can't change
4. What lies ahead: property turnover
5. Wrap up

Theoretical framework

Factors influencing the adaptive capacity of landholders



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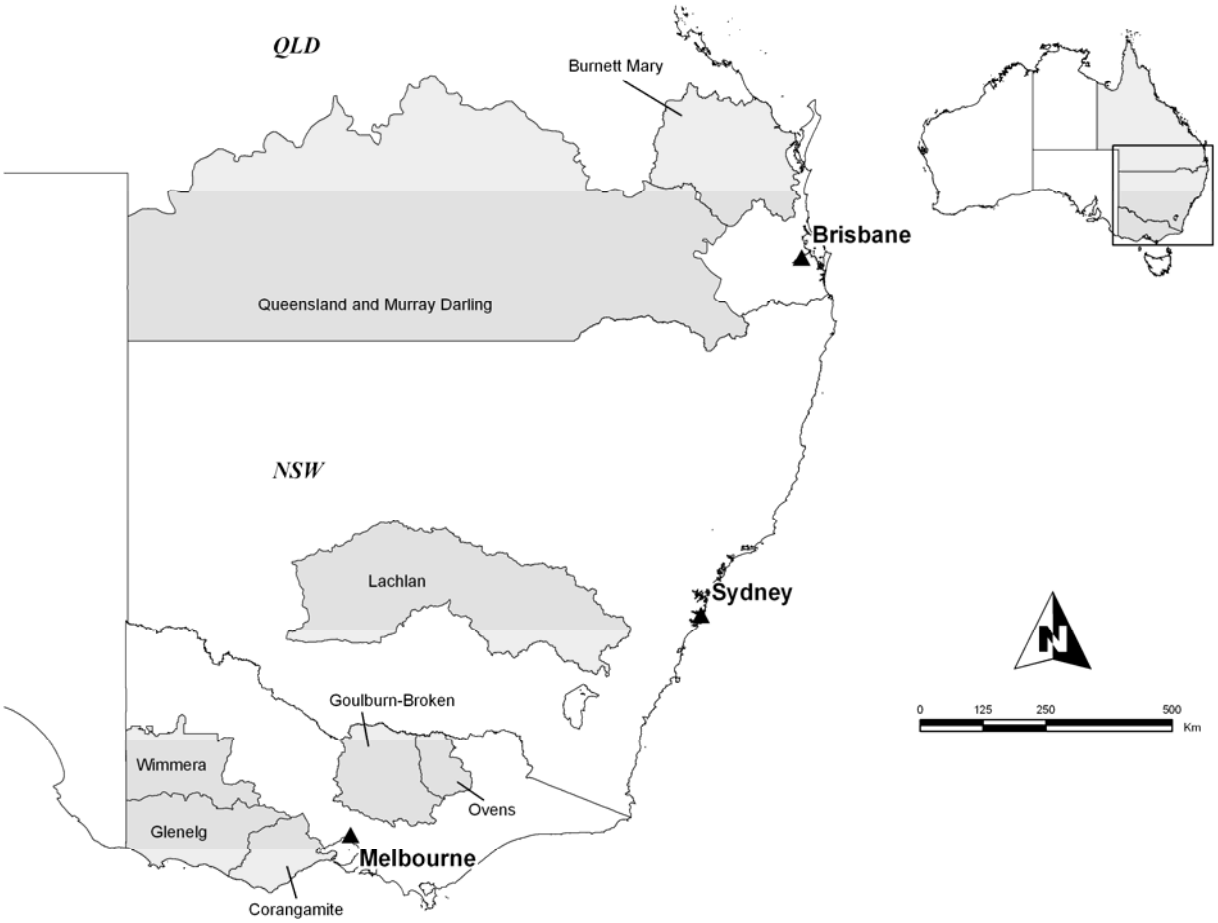
CSU regional landholder surveys



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Implementation: in/ outside programs

Practices implemented past 5 years Wimmera CMA (2007) (N=395-491)	% implementing	Median work	% without govt Support***
Area trees & shrubs planted and direct seeded	37%	4 ha	68%
Fencing erected to manage stock access to rivers, streams, wetlands	21%	3 km	77%
Area of native bush/ grasslands fenced to manage stock access	20%	10 ha	80%
Area of gully erosion addressed during management period	11%	5 ha	84%

*** Half (56%) respondents said work implemented was supported by financial or technical resources provided by government, including WCMA, local landcare, DPI/ DSE, GA or T/Nature

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Meeting targets but going backwards

Wimmera, 2002 and 2007 data for 5 practices

- % landholders across region
  - Sig lower for 3 practices, 1 up and 1 unchanged
- Median work across region
  - Sig lower for 4 practices, 1 up

No improvement when analysis for priority assets

Implementation:
drought/ income (Wimmera)

- Only 35% reported an on-property profit in 2007, down from 86% in 2002
- Median profit $17,000 in 2007, down from $45,000 in 2002
- no govt support and low income (<$50K) 51% fenced to manage stock access to bush,

  no govt support and high income (>$50K) 75% implement

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Implementation: levers that work (Wimmera)

Levers	Significant positive relationships between variables and implementation of 10 practices
Concern about issues	3 practices and 17 of 21 issue items
Higher self-assessed knowledge	7 practices and all 17 landholder knowledge items
Confidence in CRP	minimum tillage & confidence in stubble retention
Property planning	7 practices
Landcare membership	7 practices
Commodity group membership	7 practices
Government support	7 practices

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Implementation: other factors (Wimmera)

Factors	Significant positive relationships between variables and implementation of 10 practices
Values	7 practices and 16 of 18 values
Occupation	Identifying as a farmer 6 practices
Property size	Larger property size 8 practices
Enterprise	9 practices
Profitability	6 practices
On-property work	6 practices

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Changing social structure: property turnover

Topic	Wimmera 2002 & 2007	Corangamite 2006	Ovens 2002
Median length of residence	45 years	34 years	38 years
Turnover next 10 years	36% in 2002 45% in 2007	50%	47%

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New and longer-term owners are different

Topic Corangamite 2006	New property owners (19%)	Longer-term property owners (81%)
Farmer as occupation	23%	61%
Median area managed	44 ha	160 ha
Median hours farm work	16 hr/week	40 hr/week
Median days paid off-farm work/year	200 days/year	0 days/year
Make an on-property profit	35%	68%
Member of Landcare	24%	37%
Principal place of residence	61%	81%
Median Age	47 years	57 years

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New and longer-term owners: management

Longer-term owners undertake most CRP at higher levels including:

- Tree planting
- Perennial pasture establishment
- Cropping in rotation with pasture

New owners more likely to take up farm forestry, beef grazing and less involved in dairy or cropping

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Farmer and non-farmer occupations

Percent of farmers

- Wimmera – 80% 2002, 67% in 2007
- Corangamite – 53% in 2006
- Ovens – 58%
- Goulburn-Broken – 54%

In some areas non-farmers hold most of the land

Farmers and non-farmers are different

Topic Wimmera 2007	Farmers	Non-farmers
Property size	880 ha	270 ha
Absentee	8%	50%
On-property work	50 hrs/week	10 hrs/week
Landcare	48%	22%
Age	54 yrs	54 yrs
Concern about issues	Different on 14 of 21 items	
Attitudes	Different on 8 of 11 items	
NRM knowledge	Different on 11 of 18 items	
Values	Different on 14 of 18 items	

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Occupation and implementation: Wimmera and Corangamite

CMA region	Significant positive relationships farmer Vs all other occupations
Wimmera (2007)	6 of 10 practices
Corangamite (2006)	10 of 12 practices

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Take home messages

1. Nurture implementation outside direct investment
2. Existing levers that focus on human and social capital make a difference
3. High rates of property turnover, new owners are different and “business as usual” unlikely to work
4. Farming/ non-farming occupations a critical difference