Profile

Helena developed a passion for the rural environment and agricultural industries during her years growing up in rural areas of southern NSW. She moved to Canberra during her high school years and maintained a connection with rural industries through working after school in her family’s horticultural produce business. She is currently completing her PhD in the School of Agricultural and Resource Economics.
Motivating participation in delivery of environmental outcomes

Helena Clayton
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Supervisors:
Michael Burton & Atakelty Hailu (UWA)
Anna Ridley (VIC Primary Industries)

Funding:
CRC Salinity
Changing expectations of broadacre farming systems
…and changing policy focus

- ‘Decade of Landcare’
  - Raising awareness and capacity
  - Strengthening stewardship norms
  - Collaborative approaches

- Market-based approaches
  - Market creation
  - Strategic investment
  - Efficient resource allocation
# Market-based instruments

<table>
<thead>
<tr>
<th>Mechanisms</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auctions (tenders)</td>
<td>- Environmental conservation (BushTender)</td>
</tr>
<tr>
<td></td>
<td>- Water buy-back</td>
</tr>
<tr>
<td>Cap and trade</td>
<td>- Water allocation</td>
</tr>
<tr>
<td></td>
<td>- Fishery quotas</td>
</tr>
<tr>
<td>Market facilitation</td>
<td>- Organic certification</td>
</tr>
<tr>
<td></td>
<td>- Environmental real estate</td>
</tr>
</tbody>
</table>

Adapted from: NHT (2005) *Managing our Natural Resources: Can Markets Help?*
Evaluating suitability and design options in MBIs

- What do we want the market to value?
- To what extent do MBIs offer efficient gains?
- What behaviour do we want to influence?
- How do participants respond to market incentives?
- What motivates participation in conservation?
Motivations to contribute to *public good* outcomes

- **Economic motivations: market mechanisms leverage off these**
  - Profit focus
  - Positive response to price

- **Socially-based motivations**
  - Goodwill; intrinsic satisfaction; morals and ethics; social approval
Focus of PhD research

- What is the interplay between economic and socially-based motivations?
- What does it mean for market response and participation?
- … and for the design and implementation of MBIs?
Money as a motivator?

- The ‘Hidden cost of rewards’ hypothesis
  - When social motivations are important...monetary incentives do not always achieve the desired effect

- Crowding-out
  - Deci, Kelman, Titmuss
  - Becker, Ben-Ner, Bowles, Frohlich, Hirschman, Lane, Sen, Sugden
  - Andreoni, Bardsley, Frey, Gneezy, Nyborg, Vatn
Factors in crowding-out

- Expression of social motivations can be inhibited
- Shifting social norms of responsibility
- Shift in perceived ‘locus of control’
- Monetary rewards can also be perceived as recognition of value/worth (crowding-in effect)
Application to market incentives in NRM

- Is there a positive economic incentive effect?
- Are there “crowding-out” effects?
  - Across landholders
  - Across NRM activities
- Are there “crowding-in” effects?
Case study 2: VIC

NRM regions of VIC – North Central

- Broadacre – wheat & sheep
- Salinity impacted
- Significant biodiversity values
- First landcare group formed
- History of MBIs
- CRC SIF3 NRM region
- Survey involving around 90 Landholders
Choice modelling survey approach

- **Hypothetical** programs were presented
- Asked to make **choices** about which program would **most** prefer to participate in
- Responses can be used to model the effects of different program features on land manager participation choices
Would you participate in one of the following nature conservation programs?

<table>
<thead>
<tr>
<th>Program feature</th>
<th>Program 1</th>
<th>Program 2</th>
<th>Program 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTAL SIGNIFICANCE</td>
<td>Local</td>
<td>Local + National</td>
<td>Local</td>
</tr>
<tr>
<td>LENGTH OF CONTRACT</td>
<td>10 years</td>
<td>5 years</td>
<td>3 years</td>
</tr>
<tr>
<td>COORDINATION APPROACH</td>
<td>Individuals only</td>
<td>Participate with other land managers</td>
<td>Participate with other land managers</td>
</tr>
<tr>
<td>TIME COMMITMENT</td>
<td>2 days per year</td>
<td>5 days per year</td>
<td>8 days per year</td>
</tr>
<tr>
<td>I choose option (tick only one)</td>
<td>[ ]</td>
<td>[ ]</td>
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or [ ] I choose none of the above options
## Changing payment scenarios

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# Results: Time and participation preferences

## 1. Price/crowding-out effects

- Positive price response not significant
- Those with high environmental motivations, have their acceptance of time commitment crowded out
- Lower probability of participation from those high motivations

<table>
<thead>
<tr>
<th>Survey Group A</th>
<th>Survey Group B</th>
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Survey Group B

Survey Group A
## Results:

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1. Price / crowding-out effects

- No significant difference on time preference
- Small increase in non-participation (at 11% level)
## Results:

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### 2. Spill-over crowding effects

- No significant effect on acceptance of time
- But strong move towards non-participation
Summary points

- Changing expectations and changing NRM policy
  - New territory and new questions

- Interactions effects with social and environmental motives are important considerations
  - Responses to incentives vary in important ways, and possible for an important group of landholders
  - Perceived equity/fairness important

- Process and *communication* issues present significant challenges for market-based NRM programs
Acknowledgements

- Michael Burton and Atakelty Hailu (UWA)
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- CRC Salinity/FFI CRC (David Pannell)
- Landholder participants (VIC and WA)
FRONTIERS IN AGRICULTURE

Postgraduate Showcase 2008

THANK YOU