

## Building a coordinated approach to Climate Change extension

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**Abstract.** A broad range of agencies and organisations have accepted climate change projections into their planning, however this has not yet translated into a broad cooperative response of cross promotion and shared expertise. This paper reports on an example where inviting other agencies to information sessions led to extension events and then to training reaching hundreds of landowners across several regions. Some organisations contributed resources while others contributed expertise. Synergies not only accrued to the cooperating agencies but also to the participants since they were less likely to attend events which were too specialised or too similar. Contact lists were indirectly linked to reach new groups. Initial surveys of landowners found that 20% had become less convinced of climate change in 2009/2010 and that only 50% remained convinced of anthropogenic global warming. Exit surveys from the events found that 97% had learnt more about climate change and carbon. Sampling surveys subsequent to specific training found that 85% planned to implement adaptation changes on their property. Resources were developed that are now being adapted for internet delivery to reach an even wider audience. No single organisation has the resources or expertise to mount and maintain a decade spanning effort to counter misinformation and complacency on all the implications of climate change. The example outlined here demonstrates that cooperation between agencies is not only possible but offers benefits, opportunities and gravitas to all parties.

**Keywords:** carbon, adaptation, survey, internet.

### Introduction

Agricultural extension is often driven by grant funding to address particular issues in particular industries in particular regions. In contrast, climate change is an issue with multiple effects on all industries in all regions. The effects are so broad as to involve a range of agencies including the Rural Fire Service, Catchment Management Authorities, Livestock Health and Pest Authorities, Irrigation Authorities, local councils and government agencies such as NSW DPI. In the past, regional agencies have cooperated on related issues but not coordinated, generally proceeding independently along lines of differing expertise and responsibilities.

Climate change presents an extension task on an entirely new scale. Not only is the challenge beyond the resources of individual agencies but were those agencies to proceed independently they would find themselves in competition for the time and attention of landowners. A further complication is that despite the rapidly evolving nature of climate change information the audience is becoming fatigued and in some cases, hostile.

### Methodology

During 2010 workshops entitled "Farming in a Changing Climate" (Reid 2009) were offered to landholders in four regions of NSW. Local staff of the Department of Primary Industries were invited to attend but appeared defensive when placed among the "clients". As an alternative, shorter, one day workshops were offered to staff and invitations were extended to the local offices of other agencies.

In direct consequence to the "Farming in a Changing Climate" workshops, members of the Livestock Health and Pest Authority (LHPA) requested and offered to fund evening seminars for landholders. In turn staff in the Health Department requested daytime seminars as a draw to talk to landholders about health issues. Staff with the catchment management authority supported funding for the development of a training course "Managing Land for Carbon".

The contact lists of the LHPA drew upon a wide customer base and ensured the evening seminars were fully booked. More seminars were organised and then carried to adjacent regions. Having officers of the LHPA and the Department of Primary Industries at the podium lent additional authority and helped to deal with occasional hostile responses. The seminars also led directly and indirectly to enrolments in workshop training.

The workshops touched upon increasing fire risks, however presenters from the Department of Primary Industries lacked specific expertise in this area. Education Officers from the Rural Fire Service were invited to address landowners at the workshops and in every case made a strong impression on the participants. The Rural Fire Service officers were pleased to attend since they found it difficult to attract landholders to meetings focused solely on bushfires.

At each event, participants were asked to complete a brief entry survey to capture their initial opinions and later asked to complete an exit survey to gauge their intentions. A sampling survey was conducted of participants who had received training earlier in the program.

## Results

Four, one day workshops open to staff from multiple agencies led to:

- eight evening seminars
- four daytime seminars
- nine intensive workshops
- 344 landowners across three regions received two hours of information or up to 21 hours of intensive training.
- Funding was leveraged from a variety of sources totalling \$84,800 in cash grants.
- The training courses "Farming in a Changing Climate" and "Managing Land for Carbon" have been adapted for e-learning and are now offered on-line.

## Entry Surveys

Entry surveys of the participating landowners indicated that 20% had become less convinced of climate change over the previous 12 months (Table 1). Only 50% remained convinced of anthropogenic climate change, a figure consistent with wider surveys as established in the Water in Drylands Collaborative Research Program (2010). Over 80% of respondents indicated they did not understand carbon trading and had a range of concerns. Few knew the conditions under which forest carbon might be claimed or how soil carbon might be acceptably measured.

**Table 1. Entry survey responses (%)**

Survey Response	Percentage
Have become less convinced of climate change over the past 12 months	20%
Convinced of man made climate change	50%
Do not understand carbon trading	84%
Do not know the conditions required for farm forest carbon credits	82%
Do not know the testing requirements for soil carbon	92%
Have concerns about carbon trading eg price, costs, penalties, title restrictions	80%

n = 171

## Exit Surveys

Following the information seminars or training the landholders reported they had learnt more about climate change (97%), soil carbon (99%) and carbon trading (96%). While the landholders still had concerns about carbon trading 88% remained interested in carbon contracts for soil or forest carbon.

## Sampling Survey

A sample survey of 40 landowners who had received workshop training earlier in the program contrasted strongly with the entry surveys of others. Of the trained landowners only 8% had become less convinced of climate change and 78% remained convinced. Over 85% had instituted climate change adaptations as a result of the training, investing an average of \$29,226 per property.

## Discussion

Many landowners have become less convinced of climate change and some have become hostile to the subject. The "Entry Survey" results indicated that the landowners lacked specific information on a range of related subjects. "Exit Surveys" showed that the seminars or training workshops were effective in meeting some of these knowledge gaps and the "Sampling Survey" indicated that this knowledge can stabilise views and lead to practice change.

A key challenge in extension via seminars or workshops is to attract participants in numbers and to reach a broad cross section of landholders. Some studies have found that less than 20% of landowners are even inclined to attend workshops or field days (Curtis and Mendham 2011). Only 18% of the participants in the workshops reported here had learnt of the program through commercial advertising. Contact lists held by extension officers are often relied upon heavily but these can become dated or restricted to "the usual suspects".

The experience reported in this paper highlights the value of coordinating with other agencies. Access was gained to wider contact lists and promotion through newsletters. The "combined

front” presented by cooperating agencies impressed landowners as to the value of attending and was particularly valuable in managing hostile fractions of the audience. All events were fully booked and sometimes over booked despite a rapid expansion of the schedule to meet demand. Combining expertise and resources benefited each agency and the program outcomes.

Landowners have limited time to attend multiple seminars or workshops organised by separate agencies and are unlikely to attend events covering similar material. Interest in events focused on climate change appeared to decline sharply through 2010. Events which focused on new issues such as carbon trading received much more interest and were effective as a vehicle to deliver a spread of related messages from multiple agencies.

### References

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