

Co-learning from the Simmons Creek Salinity Project

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Introduction

Applied agricultural research can be made more effective by researchers and landholders embracing a co-learning approach which recognises each others expertise. Effective landholder participation keeps the research focussed on practical, implementable solutions to real problems or opportunities. The landholders engaged in the process gain a better understanding of the research, and how to evaluate and apply the results. They are able to influence the research and share ownership of the research process (Race et al., 2007).

Participative research learning's come from evaluating and recognising both mistakes and successes. We documented the journey of a research project 'Catchment Response to Farm Scale Land-Use Change' (Simmons Creek) to enable people not directly involved to learn from the experience (Creswell et al., 2009). The project ran from January 2005 to February 2009 to:

1. Assess the location and degree of change in land use to manage the water balance needed to meet catchment Natural Resources Management goals (Nordblom *et al.*, 2007):
2. Use a participatory approach, biophysical modelling and economic analysis to explore the balance between property-scale objectives and catchment targets: and
3. To develop a generic process to support decisions in other grain growing areas

Here we focus on the social research component of this study.

Methods

1. Review of existing reports and secondary data (eg. Data from ABS Census, NSW Lands);
2. Farmer interviews by NSW DPI and Murray CMA staff;
3. Review of emerging key findings from interviews by the project's four 'focus group' farmers;
4. A 'roundtable' discussion with the 'focus group' farmers to explore the agronomic and socio-economic implications of the bioeconomic modelling results; and
5. In-depth semi-structured interviews with individual members of the 'focus group' to explore the implications of the project's research process.

Results

Secondary data

In the project area income derived from farming was a substantial proportion of household income. Thus, most Simmons Creek farmers are likely to be motivated to pursue strategies that enhance farm incomes.

Semi-structured interviews:

These revealed that:

1. Farmers' views of the future of agriculture in the district varied from 'quiet optimism' (large productive properties), to 'pessimism' (small, less productive properties) [implication: pessimistic farmers are unlikely to invest in new technologies or land management options];
2. During the past 10 years local farmers have reduced wool production, and increased sheep and cattle meat production [implication: modelling needs to take account of the incremental change with an enterprise as well as enterprise mix];
3. Several farmers are analysing a range of farm business information in depth [implication: different levels of research information are required and must be provided to farmers in context];
4. Most families are highly dependent on agriculture for household income [implication: any proposed changes in land-use must consider all aspects of farm income (eg. costs & benefits, risks, break even period)];
5. Many farmers want a better 'lifestyle' in the next 3-5 years; this might mean not maximising farm profitability [implication: profitable low-input farming systems are desired];
6. 40% of farmers are intending to transfer the farm to their children in the next 10-15 years [implication: these farmers are likely to invest in long-term strategies to enhance the production, capital value and sustainability of their properties]; and
7. Farmers draw on a range of information sources, yet need to maintain their skills in analysing information from their own perspective [implication: research information needs to be disseminated in a variety of ways].

Focus group feedback

Using local, familiar CMA and DPI staff to undertake surveys was preferred by farmers, who were then more likely to co-operate and have confidence in the survey results.

High-input perennial pastures identified by the modelling as the optimal means of managing salinity are costly to establish, and may fail during dry seasons. The focus group viewed them as high risk; in their opinion, without considerable external financial support, farmers with 'low input' systems (30% of the catchment land area) would be unwilling to adopt them.

Farmers had little interest in establishing larger (> 5ha) tree plantations. However, outside investment may increase the area of trees planted. Partnership arrangements where farmers take on activities such as fencing and controlling pest plants and animals were most attractive. This was particularly appealing to landholders pursuing a 'low input' farm approach.

Discussion

The diffuse (on and off-farm) and long-term impact of salinity diminish the importance of dryland salinity for the current farmers in the district. Without dryland salinity being an obvious (severe), localised (on-farm, compared to down-stream) and immediate threat, most farmers had more important agronomic, financial and social issues to address. This low ownership of the salinity

problem presents a major challenge to communicating and engaging with the wider population of landholders, beyond the 'focus group' farmers.

Change is a sequential process, this project achieved only the first step; the review, selection and location of land use options that would achieve desirable downstream environmental outcomes. Drought during the project prevented demonstration of these options and, therefore, the wider community was not engaged in the next step towards real change.

The farms where change was needed to achieve environmental benefit were those where the desire for and the capacity to change were low. This presented considerable challenges that could not be addressed by the current project.

Engaging downstream beneficiaries to quantify and value the actions of upstream farmers would give a commercial basis for land use change in Simmons Creek. We did not determine the level of economic benefit the reductions in salinity we could achieve through of land use change would yield downstream; or if these benefits exceeded the costs of such change. This needs to be determined as the basis of compensation for the direct cost of tree planting and income forgone.

Those farmers who participated in the project were empowered with better knowledge of the hydrology of their region and the range of options that were available to manage salinity.

The project team benefited greatly from the farmers' participation through the provision of local context for their work; exposure to the decision making processes of farmers and therefore the best means of engagement and communication.

Conclusions

Most of the key elements considered necessary to change land use to manage natural resources were absent in the Simmons Creek project area. These elements include:

- Ownership of a problem (actual or potential reduction in farm productivity by salinity was minimal);
- The need to change land use to fix a problem (without ownership of a problem to fix there is no need for change);
- Demonstration of land uses that deliver tangible benefits to farm families in Simmons Creek; and
- Financial assistance to achieve change

References

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