



Partnerships for Desert Uplands agreements and Desert Uplands oral history

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Overview

Social research in the Desert Uplands region has produced tentative results for understanding landholder decision making about natural resources and the interplay of factors that influence decisions. This project consisted of two stages:

- Stage 1 (pilot) from March 2005 to January 2006. Oral history and visual research methodologies as participatory tools to understand and integrate local and technical knowledge for natural resource management in the Desert Uplands.
- Stage 2 from January 2006 to April 2006. Desert Uplands social research for understanding and integrating local and technical knowledge for natural resource management

The findings of the Stage 1 pilot project represent a pragmatic approach to exploration of decision making by local land managers in the Desert Uplands to expand understanding of links between land managers' practical and technical knowledge, changes that take place in the landscape, and the decisions made about natural resources.

The Stage 1 pilot project used a participatory approach with the 14 members in the collaborative research group drawn from professional, technical, landholder and grazier groups. Oral history interviews were conducted with eleven landholders in the Desert Uplands region about their background, local knowledge, personal circumstances, decision-making experiences and the relationships between landscape changes, social and economic pressures and natural resource management practices. Initial results demonstrated that landholder decisions about natural resources in the Desert Uplands are very complex, affected by internal and external factors, and also influenced by the personal circumstances and worldviews of individuals.

Stage 2 of the project tested the emerging understanding of decision making in the Desert Uplands in relation to natural resources. It also expanded the focus from a single landowner to include the outside figures of influence evident in Stage One, (such as financiers, stock and station agents, extension officers, policy writers, and funding organisations).

Future project aims intend to address social influences on land management decisions and therefore has the potential to address all of the assets relevant to the Desert Uplands region, such as land, soils and agriculture, biodiversity, surface water and groundwater.

Benefits will come to the regional group through having a framework for designing action

strategies based on understanding how natural resource managers respond to the interplay of factors that influence their decisions. Benefits will also come through strategies which account for the influence of the worldviews of land managers and others, when planning programs and projects.

Conceptual and theoretical foundations

The Desert Uplands is a unique bioregion in central Queensland bordered roughly by Barcaldine, Alpha, Charters Towers, and Prairie; and falling within the Burdekin Dry Tropics and Desert Channels Queensland regional natural resource areas.

Currently there is often recognition, by Desert Uplands pastoralists, of management practices acknowledged as well-matched (best management practice) for natural resources of the bioregion's grazing enterprises.

There is a disparity between recognition and use of best practice. The gap, which is similar to other bioregions, has been recognised for some years; however, there has been little serious study of the reasons behind the disparity.

Exploring the reasons the gap exists was a starting point for research activity with the long-term aim of improved management of natural resource assets of the bioregion.

The first stage of the project used oral histories to understand and integrate local and technical knowledge of Natural Resource Management in the Desert Uplands. Graziers' stories were used to gain an understanding of the relationships between local knowledge, landscape change, social, economic and regulatory pressures, and NRM practices.

The project used a participatory action research design, a research partnership between local landholders and other stakeholders in the Desert Uplands community, together with researchers who brought particular skills. The Desert Uplands community members were actively involved in all phases of the research project – defining the problem, designing the research methodology, collecting data and analysing and disseminating results.

This mutual discovery process allowed understanding of the basis of common management practices for the Desert Uplands natural resources from a landholder point of view. From this understanding the opportunity is emerging to identify and implement innovative management practices for the Desert Uplands.

Based on results from the pilot study, the second stage of the project sought to validate pilot research findings with a larger range of Desert Uplands landholders, through telephone interviews about natural resource management influences and decision making. Interviews explored landholders' views about natural resources; their experiences in managing natural resources; perceptions of their level of control over their own land and level of income; how and where information for decisions is obtained and the weighting (value) of each information source; levels of record keeping past and present; and, decision-making paths for general and natural resource situations (including decision making paths for choosing not to act or delaying action).

Additionally, a number of external parties (financiers, extension officers, government policy writers, and stock and station agents) who were identified in the pilot as having an influence on natural resource management, were interviewed in order to understand more about their perception of the level of influence that they exert.

Results of the project will contribute to Desert Uplands Build-up and Development Strategy Committee planning and management to increase NRM practice uptake. The outcomes will also address a number of issues described in the BDTB Natural Resource Management Plan (May 2000) relating to land, soils and agriculture, biodiversity, surface water and groundwater.

Emerging from this research are potential avenues for Desert Uplands Build-up and Development Strategy Committee action, opportunities to expand current understanding through future research, and an outline of research processes. Additionally an ongoing communication strategy assists in widely conveying research findings to Desert Uplands

Partnership-based social research for sustainable natural resource management in Queensland

stakeholders.

Methodology

Participatory Action Research provided the theoretical basis for this project, suggesting that stakeholders hold considerable data relevant to the understanding of complex situations, and that stakeholder involvement in data interpretation is fundamental to producing change.

Comprising a number of methodologies, action research aims to yield change (the action) and understanding (the research, which contributes to the theories of action) at the same time. Collaboration plays a key role in this approach, enabling mutual understanding and consensus, democratic decision-making, and common action.

The project included three main action phases:

1. research plan finalisation workshop
2. data collection in the Desert Uplands
3. data interpretation and report drafting workshop.

Two main reflective phases ran concurrent to, and following, the action phases. These included:

1. assessment of the implications of research outcomes for the Desert Uplands and for neighbouring regions interested in conducting similar research
2. collaborative monitoring and evaluation throughout the research process.

Stage 1

The data collection phase combined oral history and visual research methodologies to document local knowledge of landscape change, and to explore landholder decision-making in regards to natural resource management. Basic themes for the research were established within an overall framework of following a chronological timeline for each interview. Interviews started with general questions which let interviewees develop their own narrative about how changes occurred, and then probed for depth, detail, and specifics.

Interpretation was integrated with data collection, creating smaller action research cycles within the overall project cycle. A grounded theory approach was used, coding interviews to twelve themes. These were then summarised into one to three pages per interview, and sent to interviewees for validation. Summaries were reviewed by the research group, and used during Phase 3 (Workshop 2) to understand:

- key themes explaining why decisions were made in regards to natural resource management—what the data were and weren't telling us
- correlations between different themes—the network of factors that affects decision making
- individual and collective worldviews about natural resource management
- key themes to take to the Desert Uplands Build-up and Development Strategy Committee for possible action
- gaps in the data to assist in developing future applications for the project.

As part of the project a 'metascan' of natural resource management and rural futures literature in Australia was developed to assist with interpretation. Environmental scanning (which 'metascanning' is a subset of) is a well-known method in business and consulting circles, although scanning in a learning circle environment is less well known.

'Meta' modifies the scanning to examine subjective (consciousness and psychology) and inter-subjective (ideology and worldview, culture) dimensions as part of the scanning process, without losing sight of more structural and societal changes (i.e. politics, ecology, policy, economics, technology).

This process encouraged the research group to look at individual mental models and filters during the interpretation process.

Stage 2

The second stage of this research was developed to assess findings from the pilot stage of this research on a larger scale of Desert Uplands landholders. In order to reach a larger percentage of these landholders, the research collaborative group chose to conduct shorter telephone interviews with 20% of Desert Uplands landholders to test findings about decision making processes and influences from Stage 1.

Telephone interviews were designed to take approximately forty-five minutes and questions were both closed and open-ended. Members of the collaborative research group undertook to conduct the telephone interviews. Due to the shorter timeframe for the second stage of the project, an external market research group was employed for analysis of the landholder interviews and also contributed to questionnaire design.

The research collaborative interviewers report that participating landholders, on the whole, enjoyed the telephone interviews and similarly, the collaborative research group members who conducted the interviews found the interviewing process a rewarding one and also found interpretation of the interviews easier after being immersed in the data collection process. Many telephone interviews went longer than the intended 45 minutes, with a number lasting for a couple of hours.

Additionally, this stage of the project was expanded to include interviewing external influencers identified from the pilot, such as financiers, extension staff, government policy writers, and stock and station agents. These interviews were conducted with five members of each 'influence group'; members of the research collaborative group designed and analysed these interviews.

External interview participants were approached on the basis of reaching a range of people within each field. The majority of these interviews were conducted by telephone, however in some circumstances, face-to-face interviews were possible. External interviews were also conducted in an anonymous and confidential manner and interview transcripts and notes were returned to the interview participants for validation before analysis.

Interpretations of analysed landholder data and external interview raw data were based on similar themes to Stage 1.

Partnership-based research

A major conclusion reached was that the pilot project was a very worthy exercise particularly in terms of its collaborative nature. This project was designed by the Desert Uplands community, for the Desert Uplands community and the research group included a number of local landholders and local technical and extension staff.

In order to make any change within a system, it is necessary to understand the system first. This project aimed to increase understanding in order to recommend possible courses for action to the Desert Uplands Build-up and Development Strategy Committee to improve natural resource management and to this end, has made valuable contributions to this understanding. Research collaborators are in agreement that this type of research holds value for understanding complex situations, such as landholder decision-making processes.

Survey results show extension agents who develop rapport with Desert Uplands landholders are recognised as valuable sources of decision-making. The Desert Uplands Build-up and Development Strategy Committee, as the representative of regional bodies Burdekin Dry Tropics and Desert Channels Queensland, provides some extension services to Desert Uplands landholders and these agents are well supported by landholder clients. This has again been the case with this project.

Emerging strategies, processes, and tools

There is significant potential for flow-on of research findings to the regional bodies Burdekin Dry Tropics, Desert Channels Queensland, and Desert Uplands Build-up and Development Strategy

Committee. The project took place in an area of extensive grazing, which is the major land use in the Burdekin region. It is hoped the processes and results will have implications for other such areas within the Burdekin region.

General recommendations include:

1. There's a lot to be learnt from listening: participative and collaborative projects as useful tools for change. Oral histories are a method that enables understanding to inform action.
2. Seeking one aspect of natural resource management to improve is a limited perspective, as it is the complexity of factors that affect natural resource management decision-making.
3. This project has currency for improving understanding of decision-making processes with respect to natural resource management, and will have implications for future extension techniques. The emergent nature of the participatory action research framework caters for ongoing cycles of plan, act, observe, and review.
4. Understanding personality: the value in understanding personality and the influence it has on landholder decision-making is valuable. It may be appropriate to examine personality from a regional or district perspective. Case-by-case application requires input from a professional consultant on an individual basis, a factor which may be problematic in relation to regular extension.

Applying project findings

Interpretation of Stage 2 survey data from landholders, bankers, policy writers, extension agents, and stock and station agents has expanded our understanding of contributions made to decision making about natural resources in the Desert Uplands.

Risk management

Desert Uplands landholders' decisions regarding when to remove stock in dry or drought situations are judgements that can adversely affect natural resources. While graziers are aware of their responsibilities towards the protection of the natural resources in the Desert Uplands area, they recognise the choice on occasion is between taking the best action for their resources or their incomes. The main time of conflict is during drought, which is seen as the main natural resource issue in the region.

It appears landholders wish to know the outcome before taking the action and lack of certainty prompts many to put off taking the action. They appear to be continually waiting for a better option. This accords with behavioural economics principles which suggest that people will go out of their way to avoid losses, however do not expend the same effort or risk to make a gain. This may in part explain why landholders take a significant risk in not reducing stock numbers in the face of impending dry conditions. It is not that individuals either do or don't take risks as rational economics suggests, rather it is a tendency towards loss-averse behaviour.

The role of DUBDSC may be to link risk management to Desert Uplands circumstances and create models for behaviour that accord with landholders' personal experiences. A focus may be to generate models of risk management that match the Desert Uplands context, and are delivered in ways matching Desert Uplands landholder profiles. Additionally, these models could embrace realistic expectations of climate—a factor supported by input from extension agents' surveys.

Financial incentives

Financial incentives have proven successful in influencing some Desert Uplands landholders to adopt particular natural resource use recommendations (e.g. riparian fencing). There is strong and widespread recognition and acceptance of using financial incentives to change natural resource use practices. Desert Uplands landholders have used such funding in the past, and a majority report they will apply in future situations. While acceptance is not total, it is strong

enough that DUBDSC can confidently continue, and even expand, its role in implementing projects that deliver financial support for recommended natural resource use changes.

Feedback loops

Feedback is not readily available to the landholders following decisions that have an impact on natural resources.

An example is the lack of feedback on daily loss of condition by cattle and the effects on pasture that will lead to long-term loss of productive capacity. This makes it difficult for landholders to associate the outcome with their decision, thus masking the impact of their decision on natural resources.

An avenue for DUBDSC action may be to support the development of timely and practical feedback processes for landholders that relate to their own experience, (which the survey data indicates is a source of information for their decision making). Methods such as demonstrating fence line effects on soil fertility are examples of how to do this.

Decision making

Personal experience, other graziers, family, and government extension officers (as opposed to regulatory officers) are highly influential on decisions made about natural resource use. Eight in ten landholders meet socially with other graziers at least sometimes, and given the positive influence they have, this is a common method of information and experience sharing on natural resource issues.

Specific attention to broad scale social mapping, relationship building, and networking could underpin programs the DUBDSC committee could pursue to bring together the significant influences of peers, family, and government for natural resource use decision making.

These influences represent opportunities for supporting landholders to make positive decisions about their natural resource use.

DU landholders acknowledge their responsibility to care for the region's natural resources. A major factor that may impede application of these results is the lack of access to funds for staff to work with landholders, using the information obtained in Stages 1 and 2 of the project.

Although the targets and paths to change are evident in the results, landholder's worldviews will limit the capacity of these applications to achieve change⁴.

Regional implications


The project addresses a number of assets described in the BDTB Natural Resource Management Plan (May 2000). The project aims to address social influences on land management decisions and therefore has the potential to address all of the assets relevant to the Desert Uplands region, such as land, soils & agriculture, biodiversity, surface water and groundwater.


Benefits will come to the regional group through having a framework for designing action strategies based on understanding how natural resource managers respond to the interplay of factors that influence their decisions. Benefits will also come through strategies which account for the influence of the worldviews of land managers and others, when planning programs and projects

In terms of evaluating performance, outcomes, and change over time, as outlined in the BDTB Natural Resource Management Plan (May 2005), it could be particularly difficult to monitor the flow-on effects of this project. However, it should be noted, particularly in terms of Regional body planning and management, that this research should allow for strategies of action that come from a position of understanding the factors within the system. Such understanding

⁴ Note: at the time of publication, these findings are yet to be interpreted and communicated to the DUBDSC and its over-arching regional groups BDT and DCQ. The findings are yet to be incorporated into regional plans

should benefit any projects undertaken by BDTB, DUBDSC, and the community, as they can better target possible approaches to change.

	<p>Desert Uplands Build-Up and Development Strategy Committee 2005, <i>Scoping the collaborative roles and responsibilities for researchers to action research the use or non-use of natural resource management practices recognised as sound by pastoralists and others, for the eastern Desert Uplands</i>, Final Report prepared for the Burdekin Dry Tropics Board.</p>
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