

CASE STUDIES - A USEFUL TOOL FOR INTEGRATING SOCIO-ECONOMIC DATA INTO GRAZING SYSTEMS RESEARCH

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ABSTRACT

Grazing systems research and development (R&D) projects can provide important information on which to base management principles to integrate conservation management into grazing production systems. However, the adoption of these principles into practice remains largely unfulfilled. Most grazing experiments give limited attention to the socio-economic context of pastoral management. The paper suggests that one way of incorporating R&D findings and presenting them within a context that is more acceptable to decision-makers is via a case study approach. That is, use the considerable communication potential of the approach.

KEYWORDS

Case studies, sustainable grazing management, production: conservation tradeoffs

INTRODUCTION

Extensive tracts of the grazed rangelands of northern Australia are severely degraded (Tohill and Gillies, 1992), a situation which erodes both the considerable production and conservation values associated with these lands. There is a substantive body of scientific and anecdotal evidence to suggest that the situation may still be deteriorating, which is consistent with a widespread concern held within both the research and pastoral communities that existing systems of grazing land management are non-sustainable (MacLeod and Taylor, 1995). Grazing systems research and development (R&D) projects can, and do, provide important information on which to base management *principles* to integrate conservation management into grazing production systems. However, the conversion of these principles to *practice* on any sort of broad-scale remains largely unfulfilled. One potential reason is that most grazing experiments provide only limited insights into the socio-economic context within which the information might be used. Case studies have been recognised as a powerful R&D tool (Yin, 1989). Much could be gained through appreciating and utilising their second role as a communication tool to enhance the performance of grazing systems R&D projects.

A SHIFTING EMPHASIS TOWARDS CASE STUDIES

Since early 1992 the author has been involved with a program of applied communication research aimed at improving R&D outcome performance for a large beef cattle grazing trial. As the communication project proceeded and feedback was reviewed and discussed with key stakeholders, a more integrative process of communication evolved between the R&D team and local pastoralists. This involved selective use of various media to promote principles for sustainable pasture resource management and a focused set of producer discussion meetings at the principal field site in which ecological, agronomic and economic principles were highlighted along with a number of practical assessment and monitoring techniques. This material was also incorporated within a specialised module covering the sustainable management of native pasture systems for extension to pastoralists under a major adult education initiative (Property Management Planning) delivered by state land management and administration agencies.

A key finding from the communication project, and the stakeholder market research which preceded it (MacLeod and Taylor, 1995), was

that practical land managers genuinely appreciate the potential role of 'formal' or 'institutional' R&D to define sustainable grazing management options and to provide technological solutions to land degradation problems. However, they also placed high value on the technical and experiential expertise of their own peers, were motivated by the prospects of 'experimenting' with R&D-sourced technology and sought more convincing demonstrations of its technical and economic feasibility. In the last regard, information derived directly from formal field trials and/or from field stations carried less credibility than that generated from application on commercial enterprises and evaluated within the context of the whole-enterprise. Sustainable grazing management might be seen as encompassing elements drawn from, and supported by, research, practice, education and policy (Figure 1). The communication initiatives implemented after 1994, while genuinely valued by participating pastoralists were seen to lack an appropriate balance between these elements as well as *content*, *process* and *context*. To address this deficiency, while seeking to capitalise on the earlier investment in an engaging dialogue with stakeholders, a new thrust of research has commenced which is centred on a series of case study enterprises and an ongoing relationship between researchers, the case-enterprise owners and the broader pastoral community. (See Figure 1)

CASE STUDIES AS A RESEARCH AND COMMUNICATION TOOL

Case study methods are commonly viewed by researchers in the physical sciences as a poor substitute to statistical surveys for addressing social science issues (Yin, 1989). However, this tends to critically overlook the nature of the research question being asked and the social context within which the tool is being proposed. While statistical surveys might address questions of *who*, *where*, *how many*, *how much* etc, they are of limited direct value compared to case studies in addressing the more interesting *how* and *why* questions that underlie the rich issues that surround the adoption of sustainable grazing practices and related R&D-sourced technology. These lie within the complex problem domain being addressed by contextual-processual research approaches (Pettigrew, 1985). Lack of potential generality is a problem of all scientific experiments and has been addressed to some extent by the use of multiple-case studies and a recognition of the difference between analytic and statistical generalisation (Yin, 1989).

Case studies are *both* a potentially powerful research and communication tool and yet, their application to the broader area of grazing systems research is minimal, other than in the more restrictive sense of Producer Demonstration Sites (PDS). However, the traditional PDS is more consistent with largely discredited linear transfer of technology models which see pastoralists in the role of passive receptors of technical advice and not reflective of the more integrative process envisaged for case studies. Well selected case study enterprises provide a platform or focal point for an integrated R&D and communication effort that seeks to balance research, practice, education and policy elements into strategies for sustainable grazing management (Figure 1). For example, in our present work paired-case studies have been selected in two sub-regions of the sub-tropical woodlands to become focal points for a broad range of new experiments with sampling sites being established across the region.

These include animal production and pasture resource conservation under differing management regimes. Management of the cases, through an interactive process of information exchange and knowledge creation between researchers and pastoralists (the case managers in the first instance), aims to:

- (a) explore the scope for translating management principles from the regional experiments to practical property management strategies that meet both resource conservation and economic production goals;
- (b) identify the nature and extent of barriers to, and opportunities for, the definition and implementation of such strategies;
- (c) generate strategies for extending this information to local pastoralists, public land managers and policy makers;
- (d) assess the implications of resource conservation policies at the individual case level;
- (e) provide quantitative and qualitative information as input to other regional land use planning R&D initiatives in the region, particularly that relating to production:conservation tradeoffs.
- (f) create and strengthen communication networks with pastoralist stakeholders using the cases as hubs of information generation and exchange.

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Figure 1
 Research as an element of an effective program to address sustainable grazing management.

