

## Perceptions of sustainable grazing systems

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*Summary.* Preliminary results are presented of a survey of the perceptions of grazing management objectives and the dimensions of some sustainable resource management issues held by producers, extension officers, researchers, and bank managers in the beef producing regions of Queensland. Major differences between groups are highlighted; these can have an impact on grazing experiments designed to identify sustainable management practices, and on appropriate technology transfer strategies.

### Introduction

Australia's grazing lands are an important resource, but many are degraded or susceptible to degradation (1). There are growing community demands for sustainable resource management, but the issue has been clouded by differing perceptions and working definitions of degradation and sustainability within the research community and wider society (2). An understanding of the perceptions of various groups with an interest in grazing land management is considered fundamental to the design of, and successful transfer of the results from grazing research, and in developing sustainable grazing systems (2). These perceptions are explored with respect to issues relating to the 'sustainability' of cattle grazing practices in Queensland.

### Method

Approximately 300 questionnaires on perceptions of sustainable grazing systems were posted to individuals within various groups in the principal beef producing areas of Queensland. The results presented are preliminary and drawn from a wider ongoing study (4).

Producers were selected from office bearers of district and regional branches of state producer bodies and Landcare groups. The potential for bias in the selection procedure for this group is recognised, and subsequent results presented should be viewed accordingly. At the time of writing, a more comprehensive sampling of producers is being planned. The remaining groups were selected by 100% sampling from staff directories of their respective organisations.

The response rate was 47%, and made up as follows - Beef Producers [431, CSIRO/QDPI/ University of Queensland Researchers [22], QDPI Extension Officers [41], and Bank Managers [36]. All Producers were asked if they belong to a Landcare group and are subsequently referred as either Landcare Producers [25] or Other Producers [18].

Questions related to (i) the 'goals' of grazing management, (ii) 'sustainability' of present grazing systems, (iii) nature and extent of grazing land degradation, (iv) time scale for considering 'sustainable' resource use, (v) spatial scales relevant to decision-making for sustainable land management, (vi) time scale at which groups 'operate' when addressing land use issues, (vii) feasibility of rectifying degradation problems, and (viii) key players for deriving sustainable grazing systems.

### Results and discussion

#### *Land-use objectives and current grazing land degradation*

Goals of grazing management. Both Landcare Producers and Other Producers felt that their colleagues manage their land for a wide range of goals, with dominant emphasis on animal production (cattle numbers, kilos of beef turned-off), economic efficiency/success (maximum cash flow/profit), maintaining land in good condition, and enjoying a pleasant rural lifestyle. Only 22% of Landcare Producers listed maintaining land resources as the highest priority of beef producers, with 57% of these respondents

seeing the primary goal as maximising profit/ cash flow or turning off the maximum kilograms of beef. Maintaining land resources was cited as a second priority goal by only 16% of Landcare Producers and 17% of Other Producers. Only 6% of all Producers saw maximising pasture production as a primary industry goal. The Bank Manager group response was similar in range to the Producer groups, with 49% rating maximum cash flow/profit, and 16% rating maximum kilograms of beef turned off as the most important goals of producers.

Researchers did not identify two goals from the set that were identified by Producers, viz maximum pasture production, and maintaining land resources in good condition. Extension Officers did not rate pasture production, and only 3% saw maintaining land resources as a principal goal. Enjoying a comfortable rural lifestyle was considered to be the primary industry goal by 22% and 35% of the Researcher and Extension Officer groups respectively. However, only 10% of all Producer respondents saw this goal as being important.

Sustainability of present grazing systems. With the exception of one Landcare Producer, all respondents indicated a moderate to deep concern about sustainable grazing management and land degradation issues. However, the attitude of Producers partially reflected their involvement, or otherwise, in Landcare groups. While 53% of Landcare Producers saw present grazing practices in Queensland as being non-sustainable, 33% remained undecided. In contrast, Other Producers were equally (50-50%) divided between the view that the system is, or is not, sustainable.

Some 26% and 9% of the Extension Officer and Researcher groups respectively were undecided on the sustainability of present grazing practices. However, most Extension Officers (63%) and Researchers (86%) felt that current grazing systems are not sustainable, while Bank Manager responses were spread between having a negative (24%), undecided (38%), or positive (38%) outlook. The level of concern expressed by Extension Officers and Researchers was not matched by Producers, whether involved in Landcare groups or not.

Nature and extent of grazing land degradation. The respondent groups differed in their focus on where problems occur. For example, most of the respondents who believe that present practices are not sustainable, also felt that land degradation problems are extremely widespread (e.g., national). The exception was Other Producers who targeted patches within paddocks (30%), whole paddocks (30%) and properties (21%). Landcare Producers who selected these latter scales were almost equally represented (19%, 19% and 14% respectively). Extension Officers and Researchers were more inclined to target the whole property (24% and 37%), although 14% and 16% respectively identified patches as the most important scale at which problems occur. Bank Managers generally highlighted the national level (45%) followed by whole properties (25%) and paddocks (15%) as the main extent of the problem.

#### *Addressing sustainability and land degradation problems*

Feasibility of rectifying present land degradation. None of the groups surveyed felt that it was both technically and economically infeasible to rectify land degradation problems. In fact, the majority (55-85%) of respondents in all categories believed that existing problems could be rectified both in a technical and economic sense. Producers, especially those not in Landcare groups, were the most optimistic, while the Extension Officers were the most pessimistic about the economic scope for solving such problems.

Scales of information appropriate to sustainable land use. The pattern of responses on the appropriate spatial scale to address sustainable grazing issues differed from that relating to the level at which problems are seen to occur. Landcare and Other Producers and Researchers were the only groups (10%, 25% and 14% respectively) to identify patches as a primary target. Type of country (e.g., brigalow, ironbark) was identified by a wider range of respondents, particularly Landcare Producers (32%), Extension Officers (35%), and Researchers (24%). However, the largest response from each group was for a whole property focus, particularly by Extension Officers (41%). Exceptions were the Researchers of which only 9% felt that a whole property focus was appropriate, and Bank Managers (57%) who nominated the state or national scale.

The targeted groups have very different perceptions of the time frame over which the sustainability of grazing systems should be judged. Based on the modal response, Bank Managers had the shortest perspective (3-5 years), all Producers slightly longer (6-10 years), and Researchers and Extension Officers the longest perspective (11-20 years). These time frames are generally longer than those that respondents felt would generally be used by bank managers (1-2 years), producers (3-5 years), and scientists (6-10 years), for recommending land management decisions. Conservationists/environmentalists are an exception, being perceived to operate on very long time spans (100 years+).

Key players for deriving sustainable grazing systems. Respondents who felt that sustainable grazing systems were at least technically feasible, given present levels of knowledge, recognised that this knowledge was held by a wide range of people or groups. For example, 'experienced' producers, scientists, extension officers, and LandCare groups were seen to be significant sources of such information.

Scientists, 'experienced' beef producers and extension officers were listed as the most important source by Landcare Producers (29%, 29% and 21% respectively). 'Experienced' producers and extension officers were nominated by most Other Producers (64% and 21%). Scientists were seen to be very important by Researchers (65%) and less important by Extension Officers (17%). Of interest is the fact that Researchers did not identify extension officers, and Extension Officers gave nil recognition to the possible role of LandCare groups in providing knowledge on sustainable land use. By contrast, Producers and Bank Managers saw extension officers (21% and 23%) and Landcare groups (21% and 41%) as important sources of sustainable management information.

Farm management consultants, stock and station agents, bank managers, 'most' producers, and environmental groups were not seen to be potential contributors to defining sustainable grazing systems, each scoring nil ratings from all respondents.

## **Conclusions**

Looking back, we see a number of groups or 'stakeholders' with an interest in addressing sustainable grazing issues. However, these groups have widely differing views on what pastures are ultimately being managed for, and the time frame over which decisions relevant to sustainable land use should be made. This will have an impact on the relevance of research to sustainable grazing practices, and on development of effective technology transfer strategies. For example, notwithstanding the issue of the representativeness of producer organisation office bearers of the general population of producers, it is important to recognise that there are at least two groups of producers with differing emphasis on management objectives and attitudes to sustainable resource use. Similarly, the greater level of concern expressed by researchers and extension officers, however justified, might be mistaken for undue negativism by the client group they purport to serve.

Planning ahead, there is a need to recognise both differences and common ground in group perceptions to more effectively target 'sustainability' messages. To avoid confusion and misunderstandings between groups, it will be necessary to package sustainability messages in different ways for each target group. This should also facilitate a more rapid uptake of R&D results.

## **References**

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