

Changing grazing systems with experienced local graziers

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Summary. Graziers' experience has been used to enhance the sustainability of grazing in the Maranoa region of south-west Queensland and throughout Central Queensland. In the absence of 'hard' data from field experiments, experienced graziers' recommendations for sustainable grazing were obtained for each major pasture land type. Differences between the current and recommended management have been identified with respect to the stocking rates applied and property sizes. Local grazier groups have attempted to enhance the sustainability of their grazing enterprises by addressing some of the technical, economic and social factors constraining current pasture management and stocking decisions. Discussions of new management techniques, workshops for better whole farm planning and field days on methods of assessing pasture condition have been held. Guidelines for management have been developed for discussion by the wider community.

Introduction

Rural and urban communities have become more aware of degradation problems in grazing lands and the need to correct and avoid them. The formation of nine Landcare groups in the Maranoa and approximately 100 groups State-wide reflects this.

Grazing management in semi-arid areas is complex, the sustainability of a grazing system depending on making choices with long-term implications. These decisions may be influenced by climatic, economic, physical, technical and social factors including rainfall, debt levels, stock condition, property size, markets, landholder's background and perceptions and expectations, such as attitude to risk.

Landholder groups have proven to be effective for addressing complex farming problems and issues (9). Overseas experience has also shown landholders' involvement and ownership of the problems and solutions is more likely to result in change than solutions provided solely by government agencies (1).

Queensland Department of Primary Industries (QDPI) officers in the Maranoa region were concerned about the impact of current grazing practices. Grazing management was identified by local QDPI officers as the major extension and research priority (using the Nominal Group Technique (4)). They realised degradation was occurring but could not quantify the extent of the problem nor formulate all solutions. Due to a lack of local grazing research, experienced local graziers were considered an important source of practical knowledge on grazing management.

A project was initiated to review current research information on grazing management, collect graziers' views and perceptions of sustainable grazing management, document current practices and implement programs to achieve more sustainable management of grazing lands in the Maranoa.

Methods

The project used a re-iterative process in which the grazing system is not necessarily optimised, but undergoes a series of improvements (Figure 1).

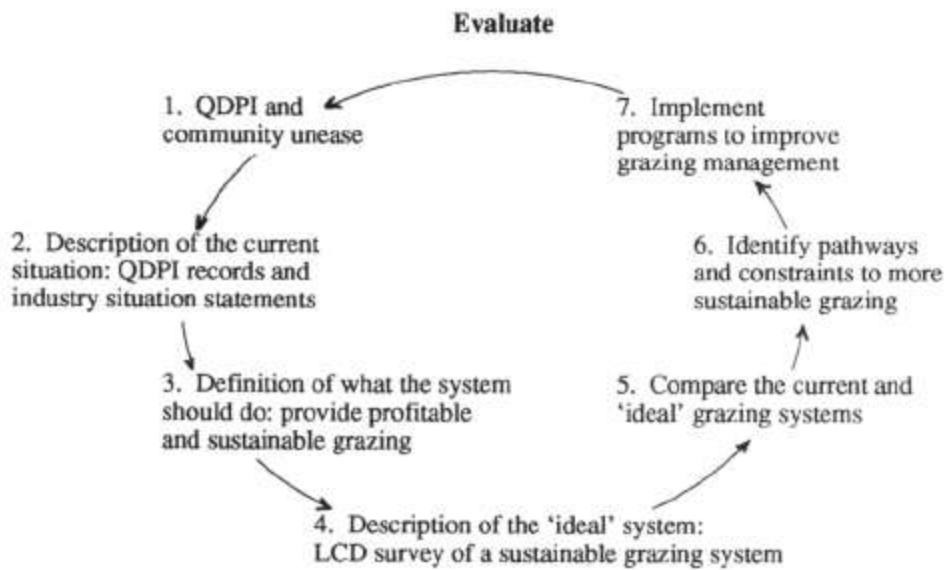


Figure 1. The process used to improve grazing systems in the Maranoa (based on (3)).

As part of steps 1 and 2 (Figure 1), a major workshop of researchers, extensionists and graziers was held to review current information on grazing management in southern Queensland. Review papers were presented, discussed, gaps in technology identified and priorities set for further action (7). The stocking rates being used by local graziers were collected from QDPI records (5).

As part of step 4, graziers' perceptions of sustainable grazing management in the Maranoa were surveyed using an adaption of the Local Consensus Data (LCD) technique (2). The LCD survey asked two groups of six to eight experienced local graziers in each major pasture land type to reach consensus on recommendations for optimal grazing production with minimal degradation of the natural resources. Recommendations based on typical land resources were obtained for the living areas required, enterprises, stocking rates, pasture management and pests. Opinions on trends were also obtained.

The LCD survey groups, Landcare groups and other grazier 'discussion' groups have been used to initiate changes to the grazing systems. They have been encouraged to compare the recommended grazing practices with those commonly applied, and identify pathways to improve the situation.

Results

Approximately 10% of graziers in the Maranoa region were involved in documenting the recommendations for sustainable grazing. Substantial differences between the graziers' perception of sustainable grazing management and current management were evident. Graziers recommended lower stocking rates than those documented by (5) from QDPI records. This was particularly evident for cattle (Table 1).

The workshop confirmed that stocking rates are the most important issue to be addressed to achieve sustainable use of grazing lands in the Maranoa. Graziers did not objectively consider pasture condition in their grazing management decisions. Decisions to reduce stock numbers were based on stock condition, market prices, past experiences, neighbour's opinions and attitude to risk.

Table 1. A comparison of recommended sustainable cattle stocking rates and those commonly used.

Landtype	<u>Cattle stocking rate (hectares/breeder plus weaner)</u>	
	Recommended	Commonly used (5)
Mitchell grass	7.5 - 10.0	3.2 - 8.1
Brigalow-belah	4.0 - 8.0	4.9 - 8.1
Box woodland	7.0 - 10.0	4.9 - 8.1
Pine country	12.5 - 30.0	6.5 - 8.1
Mulga woodland	20.0 - 24.0	6.5 - 11.3

Three survey groups formed Landcare groups to address local issues relating to sustainable grazing management. These and other grazier groups have undertaken field days and workshops to achieve better planning of property development, better awareness and understanding of the methods of pasture condition assessment and the documentation of recommended practices and guidelines for their implementation. QDPI officers have been sought as facilitators and participants in these activities

Discussion

Current grazing management in the Maranoa is not sustainable. Major problems such as overstocking and inadequate property size must be addressed. Such problems are complex and emotive, and may be slow to overcome. However, community awareness of local grazing problems and active participation to help solve them have been developed. Grazier involvement and ownership of grazing management problems has been achieved.

By comparing the current and recommended management, graziers and scientists have identified opportunities to overcome constraints to the adoption of more sustainable grazing. Apparent differences between current practices and those recommended have encouraged some LCD survey groups, Landcare groups and others to increase the sustainability of their grazing enterprise.

These grazier groups are increasing the awareness of existing and potential problems in grazing management and possible solutions through debate among group members, media articles, farm walks, field days, and demonstrations of pasture spelling and scald reclamation. They are also beginning to provide information and initiate change on local properties. Several groups have held property planning workshops to foster debate on the best methods of property management and encourage long-term thinking and planning.

Opportunities to overcome both real and perceived constraints to the adoption of more sustainable practices must be identified. The common practice of pasture management based on stock condition may be a cause of land degradation. Stock condition is an insensitive indicator of pasture condition. It is vital that criteria for pasture management be developed that do relate to pasture condition. The importance of assessing pasture condition must be demonstrated and practical 'tools' for assessing it developed.

While better management may increase sustainable grazing, there are many properties that may be too small L., implement sustainable stocking rates. This presents a major challenge for individual graziers, industry leaders and government agencies. Industry leaders are being made aware that many grazing enterprises are unsustainable. Hence, training courses for industry leaders are being given at the Centre for Agricultural Technology, Rockhampton (W. Taylor, pers. comm., 1991) and the University of Queensland, Gatton (D. White, pers. comm., 1991). This is to challenge the grazing industries to act and support initiatives to achieve sustainable grazing.

The LCD survey process has also been performed in Central Queensland where extensive grazing research has been conducted (6). In this region, graziers' recommendations were similar to those generated by research. The information generated on stocking rates and growth rates were similar to those from research for black spear grass pastures (6). This information has been used in the

STOCKMAN computer model (8) and has shown that profitability can be improved in some instances by reducing stocking rates, which increases growth rates and reduces 'turnoff' times.

The authors' experience confirm that group methods are extremely beneficial when dealing with complex issues such as sustainability. However, the ongoing facilitation and assistance of groups requires considerable time and resources. To address the needs of the majority of landholders a combination of individual, group and mass communication methods are recommended. There is a need to further define the technical, economic and social factors that influence the pasture management and stocking decisions of graziers. The importance of these factors in the decision process and the stage in the decision process that they effect must be determined. This would allow extension programs to target the issues with most influence on critical decisions.

The recommendations from the LCD survey may become a focus for future Landcare activities in the region. They provide a basis to develop fully refined and costed recommendations that are seen as credible by the grazing community. They are already being incorporated into QDPI recommendations and publications (R.L. Murphy, pers. comm., 1991).

Acknowledgments

The on-going activities described in this paper represent the efforts of numerous QDPI officers and graziers. Their cooperation has been a central part of this study and will continue to underpin any progress towards sustainable grazing.

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