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The rangelands

***A synthesis of three reports on
sustainable natural resource
management***

Prepared for

Agriculture, Fisheries and Forestry — Australia

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Canberra & Sydney***

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Glossary

| | |
|------|---|
| AFFA | Agriculture, Fisheries, Forestry-Australia |
| ALC | Arid Lands Environment Center |
| CIE | Centre for International Economics |
| ECC | Estimated Carrying Capacity |
| NLP | National Landcare Program |
| PGA | Pastoralists and Grazier's Association of Western Australia |
| SNRM | sustainable natural resource management |

Executive summary

THIS REPORT BRINGS together three reports undertaken for Agriculture, Fisheries, Forestry-Australia (AFFA) that investigated the impediments to sustainable natural resource management (SNRM) in the rangelands and evaluated the success of the National Landcare Program (NLP) in addressing these issues. The three reports were by:

- Centre for International Economics (CIE), Canberra — which conducted on interviews with pastoralists in Western Queensland;
- Arid Lands Environment Center (ALC), Alice Springs — which conducted a survey of a range of stakeholders in the arid areas; and
- Pastoralists and Grazier's Association of Western Australia (PGA) — which conducted a survey of pastoralists in Western Australia and the Northern Territory.

There is considerable diversity in the rangelands in the objectives of managers, impediments to SNRM and in the biophysical environment. A practice that is appropriate in one place may be inappropriate or irrelevant in another and a practice that achieves conservation objectives may limit production. This makes program design difficult. However several over arching principles emerged from the reports.

- There are significant gaps in knowledge about the complementarity of production and conservation objectives. It is impossible to expect managers to deliver on both objectives where they are not consistent.
- Conservation objectives need to be better defined. The division of public and private responsibility needs to be clarified. And the willingness of the public to pay for public good needs to be established.
- A vision for the rangelands needs to be developed involving all stakeholders. It must allocate clear property rights and associated responsibilities. The vision will involve trade-offs, and loss of existing rights should be compensated.

The reports agreed that the NLP has not been very successful in bringing about significant on-ground change in resource management practices.

However, it has been influential in raising awareness of SNRM and this, over time, may contribute to on-going improvement in management. Factors behind success appear to be strong leadership and clear common objectives within the group. Activities that promoted production such as feral animal control and erosion control were more likely to be judged a success.

The key issues impacting on the success of the Program were identified as:

- membership does not mean activity — and there was even a suggestion that joining was more to control events than to promote change;
- difficulties in attending meetings due to distances, and lack of free time;
- application for funding was generally too complex; and
- success in achieving funding was seen as unlikely except for the community orientated projects such as demonstration sites and community works.

In addition, there was a perception that too much is spent on administration. Whether this is true is an issue for the government to address, but this perception is common to pastoralists — whose main focus is on sustainable production, and to conservationists — whose main focus is on ecological sustainability. There were other common views between stakeholders. But there were also substantial differences — most arising from the different management objectives of the stakeholders.

Establishing clear rights and responsibilities will provide an environment for effective programs. Programs need to be designed to address the impediments at a regional level. The first step will be to identify where the impediment are. The recommendations drawn from the three reports respond to specific gaps as well as the broader issues.

- Gaps in knowledge need to be addressed by well targeted research. The focus should be on threatened biodiverse rich areas to assess tensions between production and conservation (recommendation 1). There is also a major gap in knowledge about how best to communicate with pastoralists, which is a poorly researched area (recommendation 2).
- Communication failure is resulting in gaps in understanding for all stakeholders. This exacerbates tensions arising from the different objectives of the stakeholders. Information on biophysical issues needs to be provided in a way that has relevance to stakeholders and provides perspective (recommendation 3). Specialist information on SNRM also needs to be transferred to the managers. New techniques

need to be developed and specialists trained to ensure effective communication (recommendation 4). How best to do this will be informed by the social research recommended (recommendation 2).

- While individuals often are willing to undertake some management actions with public benefit for altruistic reasons, conservation objectives are usually too large to be addressed in this way. Private managers need a motive to adopt SNRM. Uncertainty about rights and responsibilities reduces both altruistic action and management for sustainable production. Lack of tenure is often mentioned as a significant impediment to SNRM by pastoralists, while others feel it is the only way to ensure public control over outcomes. The impact of tenure arrangements on sustainable management needs to be clarified (recommendation 5). Public and private interests need to be clearly identified and public funding committed (recommendation 6). Responsibilities and rights need to be established (recommendation 7).
- The NLP has focused mainly on enhancing capacity to implement SNRM. Once the hurdles of understanding and motivation are cleared, lack of capacity should be the final hurdle to clear. However, unintended consequences of other programs need to be examined, and programs designed to ensure consistency (recommendation 8). Programs should be designed for the region and managers involved, targeting skills and other needs to implement relevant practices (recommendation 9). And programs should be assessed regularly with a focus on outcomes (recommendation 10).

1

Scope of the report

Introduction

In 1997 Agriculture, Fisheries and Forestry — Australia (AFFA, then DPIE) commissioned three studies to be funded under the National Landcare Program (NLP) to investigate the social, economic and institutional impediments to the implementation of sustainable natural resource management (SNRM) in the rangelands. Proposals for the studies were invited through advertisements in the press. AFFA selected three of those proposals from among the responses. They were:

- Centre for International Economics (CIE), Canberra
- Arid Lands Environment Center (ALC), Alice Springs
- Pastoralists and Grazier's Association of Western Australia (PGA).

The focus of the studies was the semiarid and arid pastoral zones so that the difficulties experienced by pastoral managers in the broad and expansive regions of inland Australia were fully addressed. The main objective was to recommend ways of overcoming the barriers to SNRM guidelines in the National Strategy for Sustainable Development.

Two further objectives were contained in the study brief. One was to review the effectiveness of the NLP in the rangelands and identify alternative methods for its implementation if necessary. The other objective was to use the findings from the study to contribute to the development of the Draft National Rangelands Strategy (now *National Guidelines and Principles for Rangeland Management*).

The reports

The CIE

The CIE study involved four main phases.

- A literature review of social, economic and institutional impediments to SNRM in the rangelands.

- The results of this review were then used as a basis for an in depth structured interview with rangeland pastoralists. The region chosen for the interviews was central-western Queensland.
- The consultants travelled extensively throughout the region over two weeks and carried out 20 interviews with pastoralists on their holdings. They were initially selected by using the network of a pastoralist on the consultancy team. Other pastoralists were then approached over the telephone using the first respondents as referees. This meant that the consultants carrying out the interviews could be confident that the travel to each holding would result in a detailed interview. A random sample was not used but great care was taken to interview a variety of pastoralists on both sheep and cattle enterprises and on both family and corporate owned properties.
- The results of the interviews were analysed and used to develop conclusions and recommendations. As these started to emerge during the consultation phase they were tested during the interviews.

ALC

The ALC study involved three main phases.

- Identification of perceived problems in the application of SNRM to the rangelands through a series of interviews with pastoralists, researchers and academics, government agencies, Landcare coordinators, conservation groups, mining interests and an Aboriginal representative.
- The results of these interviews were used to develop principles and recommendations to address the issue of SNRM in the rangelands and the role of Landcare.
- These principles and recommendations were then tested through a mail out questionnaire to 123 stakeholders in rangeland management. The 67 responses received were analysed and the final recommendations developed.

PGA

The PGA study had the following three main phases.

- Discussions were held with several pastoralists in Western Australia and the Northern Territory to identify the impediments they perceived to SNRM in the rangelands and the role of Landcare.

- This information was used as a basis for a literature review that examined these impediments and approaches undertaken to overcome them.
- A questionnaire was developed based on the above two phases and sent to a random sample of 300 pastoralists in Western Australia and the Northern Territory of which 179 responded. The report summarises the results of the survey and draws recommendations.

The responses were analysed and used to develop conclusions and recommendations.

The CIE and Resource Policy & Management have been contracted to review the three studies for the purpose of coordinating the recommendations and presenting the findings in a public report. The objective of this report is to provide information to policy makers and other stakeholders in the rangelands. The recommendations drawn from a synthesis of the three reports provide guidance on relevant policies and direction of programs for AFFA. The full reports are available on request from AFFA.

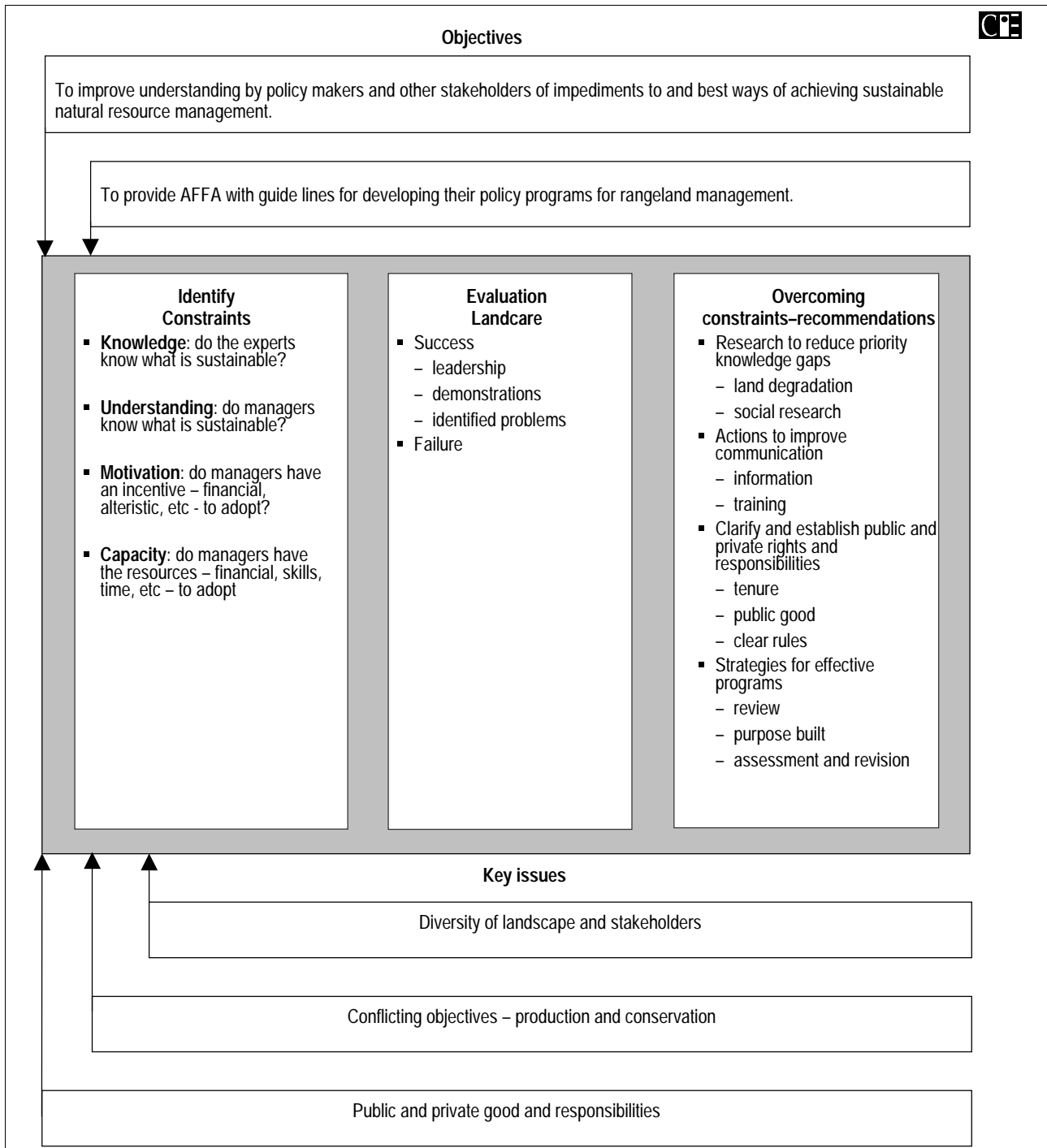
The three tasks of each of the studies are reflected in the structure of this report. Chart 1.1 outlines these tasks and provides a summary of the recommendations flowing from the reports.

Constraints or impediments to the adoption of SNRM can be categorised according to where the failure occurs—with the pastoralists and other land managers, or with the government institutions.

Pastoralists and other land managers may fail to adopt SNRM due to:

- inadequate knowledge about problems and about solutions;
- a failure by managers to understand threats to production and the environment and opportunities to address these;
- insufficient motivation to address perceived problems or to take opportunities due to inadequate private returns; and/or
- lack of capacity to change management practices for reasons such as insufficient funding, skills, or information.

1.1 The tasks of the studies and the structure of this report



Government institutions, may fail in their objective of establishing SNRM due to:

- insufficient knowledge about client needs;
- unintended consequences of current policies and legislation;

- expectations of pastoralists meeting wider public benefits without having compensatory mechanisms in place; and/or
- lack of a strategic approach — targeting what is really necessary — to achieving on ground change.

The studies were also asked to review the implementation of the NLP in the rangelands and report on the reasons for its success or failure. The key characteristics for success — leadership, common interest and clearly defined outcomes — were common to all three studies, although the definition of success varied between the studies. The reasons for failure differed between the studies, reflecting regional variability as well as the different perspectives of the people consulted by the authors of the studies. The third chapter of this report summarises the findings on reasons for success and failure.

The final chapter contains a set of recommendations drawn from the studies that will assist the government in overcoming the constraints to adoption of SNRM. The focus is on feasible practical actions, rather than a wish list. The recommendations are grouped according to whether they:

- address knowledge gaps;
- improve manager (public and private) understanding and perception of the need for SNRM;
- provide necessary motivation for improving SNRM; and
- increase the effectiveness of the NLP in achieving SNRM.

Key issues

The studies revealed several key issues that policy makers will need to address to effectively promote SNRM in the rangelands.

Diversity

There is considerable diversity in the rangelands, in the landscape, in production opportunities, and among the stakeholders. The diversity of landscape means that the conservation value of regions varies, as too does the productive capacity.

Production opportunities also vary with location. Regions or areas that are endowed with natural beauty and access to large regional centres have greater opportunities for tourism. Mining also is a major source of income,

and varies greatly between regions impacting on the economic viability of the region.

With the diversity of stakeholders comes a range of objectives, from traditional caring for country by Indigenous communities, to economic sustainability by pastoralists, Indigenous communities and others, to conservation of biodiversity and ecological sustainability demanded by conservation groups, and increasingly by urban Australians.

This diversity means that there cannot be a 'one size fits all' approach to policies and programs in the rangelands. Indeed, stereotyping the rangelands as the larger sheep and cattle zone managed by pastoralists with the same set of imperatives and expectations has been an impediment to change.

Conflicting objectives

The conservation of biodiversity is a complex land and water management issue. *The National Strategy for the Conservation of Australia's Biological Diversity* considers biodiversity at three levels – genetic diversity, species diversity and ecosystem diversity. To achieve conservation objectives for each or all of these levels across the vast rangelands of Australia with its diverse users and stakeholders and to be able to integrate them with production systems in a complex task. It will require considerable research and conservation planning for the creation of new, and the management of existing, national parks and equivalent reserves as well as strategies for off-reserve conservation.

There are very few or no clearly stated targets for off-reserve biodiversity conservation on pastoral holdings in the rangelands. In the absence of clear guidelines it is impossible to integrate it with primary production. Pastoralists do not know what is expected of them. In some cases, individual species recovery plans will impact on pastoralists. In other cases there will be ecosystems that occur on pastoral holdings that are poorly represented in conservation reserves and there will be a need for off-reserve conservation initiatives.

The lack of clear understanding of the consistency of production and conservation increases tensions between stakeholders. While objectives at an individual level vary greatly, the reports reflect very different primary objectives for pastoralists and conservationists. Sustainable production is the primary objective of SNRM for pastoralists, while for conservationists, the objectives vary and include ensuring representative ecosystems are protected and protecting all biodiversity. The objective of conservation of

biodiversity is used as a short-hand for somewhere in this range of objectives. These different objectives are behind the main differences in opinion about impediments to SNRM in the rangelands found in the three reports — for the simple reason that they are not always talking about the same thing.

Public and private responsibilities

The line between management for private or public good is blurred. This is particularly true where sustainable management delivers enhancement of the production base and conservation of biodiversity. This concept lies behind increasing expectations that pastoralists will implement SNRM which also meet other expectations such as the conservation of biodiversity. However, there are situations in which these two objectives will be in conflict.

There is a feeling among pastoralists that property rights are being eroded at a rapid pace. What is a reasonable private ‘duty of care’ as part of the responsibility of managing a very large area of land for primary production and what is mainly of benefit to the wider public is a vexed and difficult issue.

It is becoming more widely accepted that activities that are predominantly for the public good, such as conservation of biodiversity, should be funded from the public purse or are achieved through the use of other mechanisms such as:

- providing market incentives to increase the private return to the point where the action is undertaken;
- creating a regulatory regime that requires that the action be undertaken; or
- through purchase, or by other means, gain public control of the land and undertake the desired actions directly.

As policy makers increasingly look to off-reserve conservation to meet public demands, the first two approaches come in for the greatest attention.

Unintended consequences

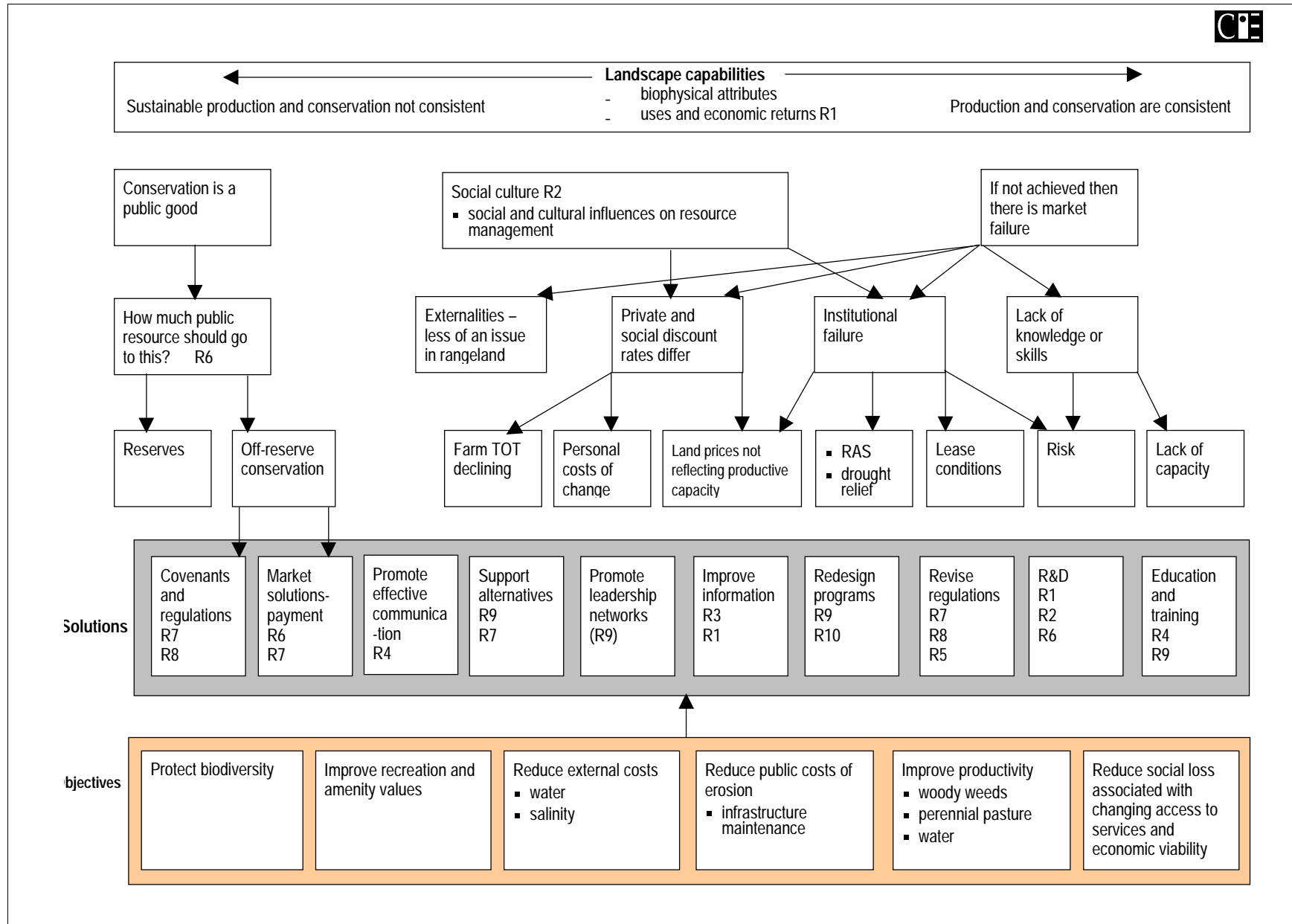
A focus on programs and policies designed to achieve SNRM in the rangelands is too narrow, as there are a number of other programs and policies, that impact on management decisions in the rangelands. The effect of these programs, such as drought relief and the Rural Adjustment

Scheme, on resource management is often not considered. Yet it can be critical as such programs and regulations directly affect management, and interact with purpose-designed programs.

An example is the restrictions on the number of holdings that can be held by one pastoralist or corporation in central Queensland. The intended consequence of these conditions was to prevent corporations taking over large areas of the most productive rangelands. The unintended consequence is that property amalgamation necessary to adjust to the declining terms of trade in agriculture was impeded. This may have meant lower economic returns and less capacity to implement SNRM.

Chart 1.2 summarises these key issues and shows how they relate to the constraints and recommendations for government action summarised in this report.

1.2 Summary of key issues



2

Impediments to adoption of SNRM in the rangelands

Identifying impediments

The three reports each took a different approach to identifying impediments.

- The CIE searched for common themes in the interviews conducted, and tested them in the same forum to arrive at a set of key impediments that are faced by rangeland pastoralists.
- The PGA held a number of informal discussions to arrive at a list of major constraints that were then categorised into social, economic and institutional impediments. These were presented in a survey with respondents asked to identify which of the list were considered major impediments.
- The ALC survey asked respondents for their strength of agreement or disagreement to a list of institutional impediments. Other questions provided indirect information on what respondents might consider impediments, in that they were asked to assess if changes would bring improvement.

It is difficult to sort out cause and effect between economic and social impediments and between economic and institutional impediments. Rather than attempt to classify impediments along the lines of social, economic and institutional as in the three reports they are presented in the following discussion by the part of the process of change they limit. This classification was developed for the National Land and Water Resources Audit, Project 2.1, *Indicators within a Decision Framework — social, economic and institutional indicators for sustainable management of the rangelands*.

This process of change is characterised by:

- understanding of the problems and opportunities to change and the effects of change in management — where knowledge is effectively communicated;

- motivation to change — where the benefits to those expected to make the change exceed the costs of change; and
- capacity to change — where adequate resources, financial, skills and other are available to support change.

The policy implications of this approach to identifying impediments are clear — programs should target the gaps, starting at understanding. For example, all the programs designed to improve capacity will not be effective unless there is a motive to adopt SNRM, which in turn depends on an understanding of the need for LSNRM.

Failure to understand problems and opportunities

All agreed that there were serious gaps in knowledge...

A common theme running through all reports was a lack of understanding of the extent of degradation in the rangelands and the impact that it has on production and on biodiversity.

For example, the PGA survey found that decision-making about SNRM and grazing management is mostly based on weather forecasting information and satellite imagery (33 per cent and 16 per cent respectively). This is followed by use of commodity price predictions (30 per cent). With weather forecasting being the most highly ranked information source (40 per cent), it is concerning that 70 per cent stated that this information was either inaccurate, out-of-date or not property specific enough. A continuing governmental focus on improvements in technology to resolve this problem appears warranted.

...but there were differences of opinion on where the gaps were...

The gaps in knowledge were driven by priorities. For example, the broader community identified research on what is ecologically best for regions as a priority while pastoralists wanted knowledge about optimal management of their current activity. ALC (1999) found weed control and stock levels were important for pastoralists while other stakeholders identified loss of natural vegetation and fauna as issues of concern. The CIE report concluded that there is disagreement between the different stakeholders on both the specifics of the problem and its extent. CIE found that although pastoralists indicated concerns about the consequences of resource

degradation on the sustainability of agriculture in the rangelands, their primary concern was weed invasion and grazing management.

...and on who knows best.

It was very clear in the PGA and CIE reports that pastoralists, in general, felt that they were most able to make decisions about what is appropriate management for the rangelands. For example in the CIE report only four of the 20 pastoralists interviewed said they had a problem with erosion, declining water quality and pasture and other native vegetation decline. In each case they were confident they were managing it in an appropriate and sustainable way. Yet the ALC report found that among other stakeholders not all pastoralists were viewed as sufficiently skilled or informed about what others might perceive as real threats to sustainability. A lot of the apparent disagreement stems from the different objectives of these stakeholders.

This problem of conflicting objectives is also apparent in the mixed messages coming from government agencies, a point raised in all three reports. ALC (1999) concluded that the absence of a well-informed debate on the diversity of regional rangeland issues has contributed to the lack of consensus on what the issues are and how to address them. Pastoralists disagreed twice as often as other stakeholders that a clear and broadly agreed vision has been developed.

The challenges

- A better understanding of the conflicts between sustainable production and conservation is necessary.
- A process for targeting and prioritising R&D is needed.
- Greater emphasis on effective communication of the biophysical threats and the trade-offs and costs of addressing these threats to all stakeholders is required.
- Information flows between groups with different objectives needs to be improved.

Lack of motivation

ABARE surveys in 1992-93, 1995-96 and 1998-99 have found that while many pastoralists have undertaken SNRM activities, the focus of these has largely been on activities for improving production. This is confirmed in

the PGA survey that found that the activity undertaken least frequently is revegetation and seeding (56 per cent). Stock and vermin management (98 per cent), fencing (85 per cent) and engineering works (67 per cent) are more favoured management practices. These findings suggest a lesser focus on restoration of biodiversity than the managing of stock and vermin — which have more easily recognisable financial benefits.

Yet the PGA survey also found that for 68 per cent of respondents less than 3 per cent of their budgets were allocated to SNRM.

Pastoralists have little incentive to manage for conservation objectives alone...

It was generally agreed across the three reports that pastoralists had little incentive to manage for conservation objectives where they conflicted with production objectives, or where they had no production benefits.

All three reports raised the issue of management for public benefit where it conflicted with, or was additional to, management required for private benefit. Most conservation objectives were seen as additional to sustainable production and pastoralists did not feel that they should be required to deliver on these objectives.

...and resent being told what to do.

It was clear in both the CIE and PGA reports that pastoralists resent being left out of decision making. The PGA reported that 32 per cent of pastoralists disputed their allocated estimated carrying capacity, (ECC). They felt it was too low and that those involved in the calculations had no obvious local knowledge. CIE also found that pastoralists felt that their experience and knowledge is overlooked in managing the rangeland. ALC (1999) also found that although the majority of respondents agreed that all Australians should be involved in decisions on rangelands, pastoralists were split on this issue and were more likely to disagree.

The impact of SNRM activities on production is not certain and can take a long time to appear...

The benefits of undertaking SNRM activities are not always readily apparent for either production or conservation purposes. This uncertainty in the outcome as well as the long time lags involved for the activities to yield returns reduces the perceived benefits of undertaking SNRM for all land managers. The problem is compounded by the other sources of uncertainty in rangelands due to uncontrollable variables such as weather,

measuring progress, and bushfires. These factors were listed by 41 per cent of the PGA survey respondents as important impediments to SNRM.

The PGA report found that the long time frames to measure benefits from SNRM appeared to limit decision-making about new practices. More than 50 per cent of respondents indicated that they believed it takes more than 5-10 years before the benefits could be observed or achieved. Only 22 per cent saw realisable benefits possible within five years.

...and uncertainty of tenure or leasehold conditions increases risk...

There is a strong perception among pastoralists that leasehold tenure increases the uncertainty of receiving any benefits from SNRM and hence reduces the perceived benefits from undertaking changes to management practices.

For example, 70 per cent of respondents in the PGA survey listed lack of security of tenure as one of seven major factors that limit diversification of land use on respondents' properties. And a third of the respondents to the PGA survey thought that ECC figures were too low, although 57 per cent agreed with the estimates.

...but the validity of this impediment is challenged by others.

There is a view expressed in ALC (1999) that leaving the rangelands in leasehold tenure does provide one of the few avenues for government to intervene to achieve SNRM or to control land use.

Public managers are not accountable for outcomes...

One of the issues raised in all three reports is that pastoralists are directly accountable for any mistakes that they make. It is seen in their economic returns and in the condition of the land they manage. However, government agencies are not held accountable for policies and programs they may institute in the rangelands. This reduces their incentives to ensure programs are successful.

...but the public are seeking a new vision for the rangelands where public managers will be accountable.

Until recently the urban vision was of the rangelands as pastoral activity, but as the ALC report makes clear, and as is reflected in pastoralists re-

actions in the CIE report, this is changing. Increasingly the pastoral use of the rangelands — which are seen as a public resource by many — is being challenged. Replacing this is a view of the rangelands as a multi use area with some areas having a predominant use for conservation and other areas for production.

The challenges

- Public benefits such as conservation need, for the large part, to be publicly funded. Yet little is known about the public's willingness to pay for such activities.
- All Australians want a say in the management but this is impractical, so participatory processes need to be developed that facilitate involvement but are workable.
- Increasing pastoralists feeling of security is essential to encourage management activities that promote long-term sustainable production, which is consistent with conservation objectives. What form this security should take is the subject of ongoing debate. There is little objective evidence to show that freehold title leads to better SNRM outcomes. However, the widely held view among pastoralists that more secure title would encourage SNRM should not be ignored.

Insufficient capacity

Most rangeland managers are stretched for funds with little left for investment in land care...

The terms of trade for pastoralists have historically trended down and only continual productivity improvements have allowed these industries to remain viable. Times are often tough, with little cash available for investments that have long-term or uncertain pay-offs.

The three reports had a common finding that pastoralists were limited by lack of funds. In the CIE and PGA reports insufficient cash and time to undertake SNRM activities was a key constraint. Many of the recommended practices such as bore capping were very expensive.

The PGA survey found that factors preventing the implementation of SNRM practices appear to be largely financially related for 78 per cent of respondents. A majority of respondents (67 per cent) agreed that incentives are needed for de-stocking to reduce resource degradation following

drought, although whether this was related to the financial inability to do so was not raised in the survey.

This was true also for public managers who reported a lack of management funding for public lands.

...yet even when funds were not a limiting factor access to information was.

All reports agreed that distance, remoteness and poor telecommunications inhibited the ability to acquire information necessary to both identify problems and implement solutions.

There was disagreement over whether there was a shortage of skills...

One of the findings of the ALC report was that there was a view among certain respondents to the interviews and questionnaires that pastoralists did not have sufficient knowledge to undertake SNRM. This is obviously a highly contentious issue. The CIE report found that there was a great deal of resentment by pastoralists to the imposition of regulations and controls from people outside the rangelands. Knowledge is a critical ingredient in SNRM but how to increase it while working with pastoralists is a major challenge.

...and over whether rangeland monitoring was adequate and appropriate.

An issue for public managers has been sufficient information to assess compliance with leasehold requirements. There are significant regional differences in the approaches to monitoring leasehold requirements, resulting in varied responses in the ALC survey. As conditions such as the size and number of leases as well as climate variability vary considerably between regions, systems that work well in one place may not be appropriate in another.

The challenges

- Enabling pastoralists to make long-term investments in SNRM that are constrained by the long-term and/or financially risky nature of the investment.
- Improving monitoring of pasture condition and trend and the relay of information to pastoralists.

- Improved access to communication technology, but more importantly to the best ways to communicate all types of information from monitoring findings to extension advice.

3

Factors influencing the success of the NLP

The performance of the NLP in the rangelands

There was a high level of agreement in the three reports on the effectiveness of the NLP in the rangelands. The NLP was not seen as bringing about change to SNRM. Of the respondents to the PGA survey, 23 per cent believe that nothing much is being done, or the funds are mostly wasted. A follow-up question revealed concern by 30 per cent of respondents that where NLP funds had been spent there was no, or very little, benefit. This does, however, need to be balanced with the more widely held view that Landcare has brought about greater awareness of the issues.

The ALC report found that there was generally a positive view of the NLP and that it had heightened awareness about the need for improved natural resource management. However, none of the three reports were able to show how the NLP had led to actual on-ground change to pastoral property management. The PGA report shows a negative attitude to the NLP, derived from the perception that it lacks direction and too much of it is spent on administration.

The main impediment to constructive and continuing involvement in the NLP is the perception that it might not be relevant, coupled with the large distances to travel and the costs involved in attending meetings and field days. Pastoralists are unlikely to devote time and resources to an activity that they do not see as central to their immediate welfare at a time when agriculture is under constant challenge by fickle commodity prices and declining terms of trade.

Membership does not mean activity...

In the CIE study 14 of the 20 pastoralists interviewed stated that they were members of Landcare groups. The PGA survey found that about 53 per cent of respondents were involved with Landcare groups. These levels of membership and involvement are comparable to other surveys. However,

when asked in the CIE report how many meetings their Landcare group had held over the past two years and how many of those they had actually attended, the result is far less optimistic. Only three Landcare groups had met on more than five occasions or more in two years. The other seven groups had only met once or twice in that time. Even with so few meetings, the pastoralists interviewed only attended about two thirds of the meetings.

There is significant support for the NLP. However, it is not clear why pastoralists provide this support or what constructive form it takes. It is relatively simple to state that one is a 'member' of Landcare but being involved in changing NRM through this organisation may not necessarily follow. There was evidence that some pastoralists might even get involved in a Landcare group in order to control events rather than promote change. This is shown in the view that 'if we do not run it then the greenies will take it over'. Lest this be seen as being critical of pastoralists, it is also eminently understandable given the degree of alienation many of them experience.

...in part due to difficulties in attending meetings.

Meetings and opportunities to discuss SNRM and production issues are limited by remoteness in much of the rangelands. Yet these are the forums where information is exchanged, successes demonstrated, and pressure brought to bear on group members to conform. This last impact can have both positive and negative effects as found by Campbell (1995). He argues, in an evaluation of the impact of the NLP, that pressure to conform to the social 'norm' can limit more progressive members from groups from pursuing more unusual approaches.

The PGA survey found that only half of the respondents reported being involved with a Landcare group. It appears that attendance at meetings is limited and so, therefore, is discussion between peers. Lack of time and staff was reported by 50 per cent of respondents to be one of seven major factors that limit diversification of land use on respondents' properties.

Application for funding is thought to be too complex and bureaucratic application procedures limit willingness to apply for funds...

The PGA survey found that SNRM expenses were mostly paid from property budgets (87.2 per cent). Only 14 per cent of respondents noted funds coming from the NLP (for example, for community demonstration sites or equipment). One of the main reasons provided for this was that

pastoralists are reluctant to apply for financial assistance from state or federal sources because of difficulties with the application process and/or concerns about dealing with government agencies (for example, 52 per cent of respondents in the PGA survey listed paperwork as a barrier).

In addition, the complexity of the application form and the uncertainties of obtaining funds is an obstacle for many groups who do not have access to a facilitator or coordinator. This applies particularly to Indigenous organisations in remote areas.

...and success unlikely...

Individual pastoralists do not take an interest in the NLP because it favours community outcomes rather than specific on-ground works on their properties. Government is portrayed as saying it will target on-ground works but it becomes apparent that demonstration sites and community projects receive priority for funding.

...and too much is thought to be spent on administration and bureaucracy.

All three reports found a perception that administration and bureaucracy was absorbing a disproportionate amount of funds available under the NLP. In reality Commonwealth administration takes up 2.3 per cent of NHT funds.

The PGA survey reported a strong perception (31 per cent of respondents) that government departments are spending too much of the available NLP funding on administration and bureaucracy.

This perception may be a result of the way governments allocated pre-existing programs into the NLP. Because of this the amount of funding devoted to Landcare seemed very high compared to the proportion allocated to on-ground works in the pastoral zone. In short, the widespread criticism that the NLP received because too much of it was spent on administration was a problem that governments created for themselves.

Factors leading to success

Leadership with clear objectives

The successful Landcare group that was encountered during the CIE interviews had a committed and talented leader with a clear vision for the

region. The group had established realistic and achievable goals that could attract funding. In this case it was a pragmatic goal in weed control that attracted wide support. More abstract concepts such as SNRM are long-term, difficult to define and the advantages of individual commitment of time and resource are not clear. The ALC report also noted that some Landcare groups were very effective in community networking compared to others.

The identification of impediments as limiting understanding, motivation and/or capacity also helps identify where the NLP was most effective, and why even if on-ground outcomes have not been achieved it has still been important. The real achievement of the NLP may be less obvious as it has improved understanding of the need and the benefits of SNRM. The lessons from analysis of the NLP also show that the major failure was in lack of motivation — largely as private managers were not given sufficient motivation to undertake actions that were often public good in nature.

4

Recommendations

THE RECOMMENDATIONS ARE summarised by whether they address:

- gaps in knowledge necessary for sustainable management;
- communication to improve the understanding of rangeland managers of threatening processes and solutions and opportunities to achieve sustainable outcomes;
- the motivation to undertake SNRM activities — for public and private benefits by public and private managers; and
- the design of programs to promote SNRM.

These recommendations have been formulated based on the recommendations in from the three reports.

Chart 4.1 maps the recommendations into the framework outlined in chapter 1.

Research to reduce priority knowledge gaps

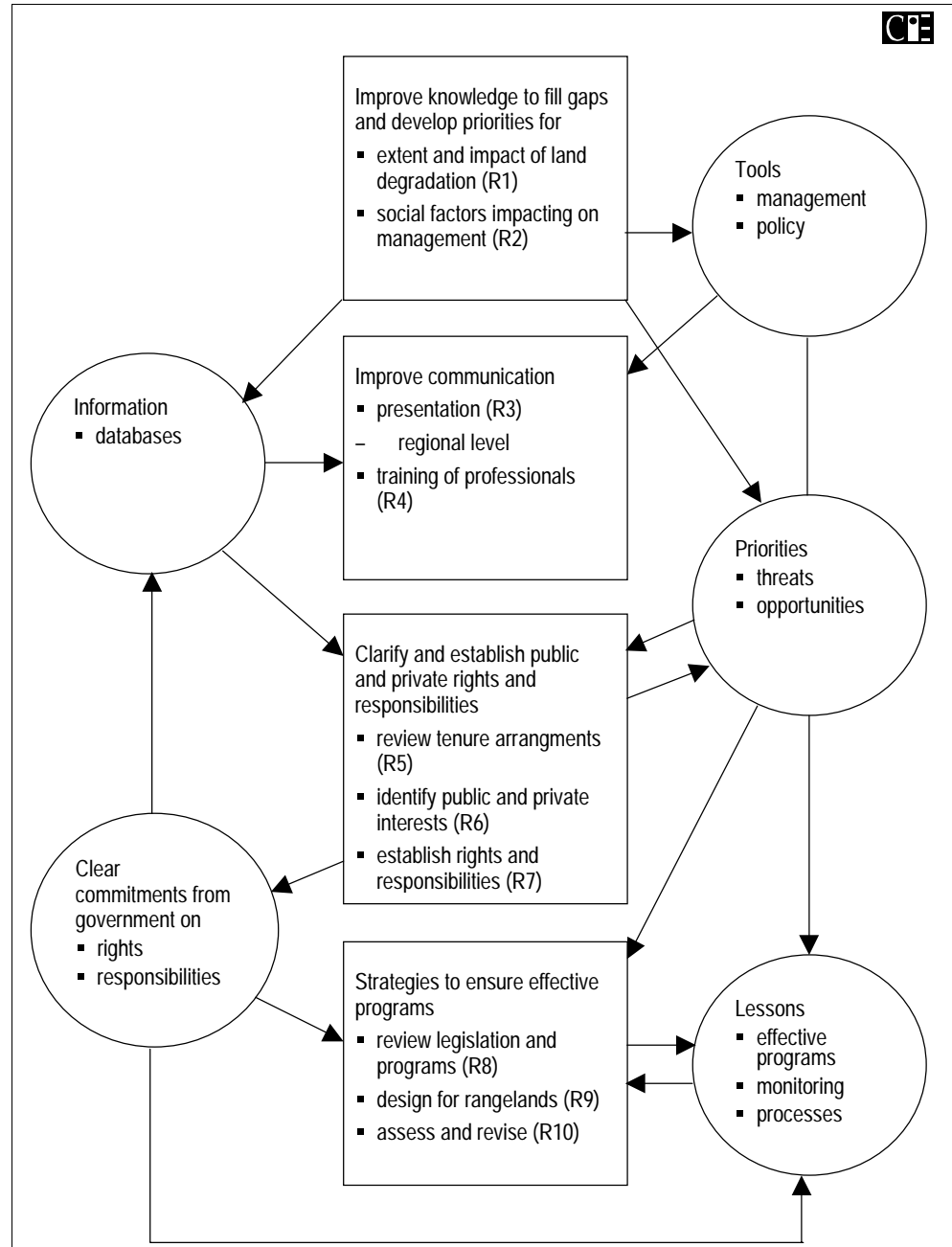
There are two clear priority research issues:

- cost of degradation — economic and biodiversity costs — of current management practices and hence the private and public motive for addressing any problems; and
- effectiveness of policy options — what influences private manager's decisions about resource management, and hence what policies will be effective in encouraging sustainable management.

Recommendation 1 — improve understanding of land degradation

There needs to be more effort directed towards gaining a better understanding and assessing the extent and seriousness of land degradation in the rangelands. This should include an assessment

4.1 Recommendations and key outputs



of the economic viability of existing industries and possible conflict in production and conservation objectives.

While there is a widespread perception that there is serious land degradation in the rangelands, it is extremely difficult to gain any accurate picture of where it exists, its social and economic impact, and whether it is regional or isolated at a pastoral holding level. There is also no common understanding of what is meant by land degradation in the rangelands. This

means that it is difficult to operationalise the term and then measure land degradation in a way that is meaningful for a policy and management response.

Similarly, government agencies charged with the responsibility of conserving wildlife often do not have regional surveys of fauna and flora that are reliable enough for species conservation plans or strategies. Lack of information can result in wrong priorities, and failure to develop sound strategies.

Current knowledge should be used to establish initial research and action priorities. These priorities must be reviewed regularly as knowledge improves. Lack of knowledge must not be used as an excuse for inaction, where net benefits are clear action should proceed.

Recommendation 2 — design and implement a social research agenda to develop a better understanding of pastoralist’s needs and their response to policy

A social research agenda needs to be designed and implemented to develop the tools for rangeland management. This is as important as research into the physical environment. This research should guide the evolution of useful social, economic and environmental indicators that should be made available at a regional scale.

There has been a great deal of research into aspects of primary production and the biophysical environment of the rangelands but social research is lacking. We know very little about the people who are on the end of government policies, regulations and other institutional interventions in the rangelands. There was plenty of evidence from the three studies to show that there exists a wide gulf between the city and the bush. There is a cultural divide and we do not know its dimensions or dynamics.

Actions to improve communication

Communication failures were apparent problems mentioned in all three reports. Particular concerns were raised about:

- information not being available to pastoralists in a form that was meaningful; and
- lack of understanding of government representatives of the issues of concern to pastoralists who are expected to implement management change and little attempt to achieve a common understanding on which to base relationships.

The lack of communication goes beyond the pastoralists and government representatives and applies to other stakeholders. While participatory planning to ensure involvement of all stakeholders may be seen as the best tool to achieve fairness, the administrative costs of such processes and the effectiveness of their results needs to be assessed before embarking on such approaches.

Recommendation 3 — presentation of information on land degradation in a useful form to stakeholders

Documentation and presentation of information about the extent and seriousness of land degradation must be done in a way that has relevance to pastoralists and other stakeholders.

People do not change unless there are compelling reasons to do so. Achieving change in attitudes and then behavioural change is extremely difficult even with the most sophisticated and expensive public education programs if the perceived private benefit from the change is small. Using stereotypes and appealing to notions of public good will achieve little if pastoralists themselves do not see that they have a problem or if they see the solution to their problems as lying in rainfall and commodity prices. Because of some negative stereotypes there is the danger that pastoralists will just become further alienated so any presentation of information of land degradation statistics needs to be done in a way that encourages pastoralists to use the information.

Recommendation 4 — professionals acting for government should undergo specialist training in communication with stakeholder groups

The wide range of professionals funded by governments who are now working in the rangelands should undergo specialist training in communicating with stakeholders, with pastoralists as the priority. The training methods used should incorporate findings from the social research undertaken as a result of recommendation 2.

There is resentment among pastoralists about the number of agency staff they meet in a wide variety of situations who they perceive to be either inexperienced or unsympathetic, or both. While contact between regulatory officers and pastoralists may not be frequent, pastoralists are often expected to attend meetings that may be facilitated by people who are 'not of them'. These staff include Landcare facilitators, catchment coordinators, natural resource planners and a variety of new professional positions that

have added to, or replaced, the traditional primary industries department's sheep and wool or beef cattle extension officer.

Steps to clarify and establish public and private rights and responsibilities

Two very important findings common to all three reports were:

- private interests have little incentive to undertake management for public good, nor should they be responsible for doing so; and
- uncertainty about what requirements might be placed on private interests does not enhance either the capacity or incentive for improving management for sustainable outcomes.

Three recommendations emerged from the reports.

Recommendation 5 — review the impact of tenure arrangements on sustainable management

The view that leasehold tenure is insecure and therefore an impediment to SNRM because it reduces incentive for long-term planning and management needs to be investigated as a matter of priority.

This issue is frequently referred to in the literature and it was discussed in all three reports. Comparative studies on degradation over different forms of title could be undertaken. Surveys of government pastoral inspectors and natural resource managers are another avenue of investigation. It must be now possible to move this debate forward by taking it beyond the anecdotal and political and into the realms of a factual basis for recommendations on how tenure does impact on natural resource management in the rangelands.

Recommendation 6 — clearly identify public and private interests and commit public funding accordingly

The public and private interests need to be clearly identified and objectives clearly in the public interest need to be appropriately and adequately resourced. The expectations and responsibilities of pastoralists in the conservation of biodiversity need to be clarified and incorporated into regional planning.

If the primary role of pastoralists is to profit through grazing sheep and cattle then it is inappropriate to use public funds to support such enterprises. If there is a demand by the wider public interest for a change in management then it may well be appropriate that the public meets the cost. At present there are no clear guidelines for what is a private or public benefit.

There is an expectation from the wider community that pastoralists will contribute to the conservation of biodiversity. However, there is no clarity on the dimension or configuration of what that contribution should be. Off-reserve conservation requires consistency between government agencies so that if pastoralists take initiatives in this field they are provided assistance for feral animal and weed control that may be the responsibility of another agency.

Recommendation 7 — establish what responsibilities should go with rights to use land in the rangelands

The main priority is to establish clear and certain rules for the rights and responsibilities of pastoralists on leasehold land. However, the recommendation goes beyond this to ensure that all people with access to and use of rangelands be provided with clear rules on their rights and responsibilities.

One reason for the alienation and resentment among pastoralists towards any changes in SNRM is that they see a gradual erosion of their property rights. Clearly stated property rights that are negotiated and then put in place for a stated period may give some ownership of SNRM to pastoralists and remove the need for further regulation. The importance of tenure is stressed in the PGA report, but it is recommended that actions be guided by the findings from the studies in recommendation 5.

Multiple use of some rangeland areas might be considered where uses — such as for conservation, recreation, and production — are consistent. Holmes (2000) presents one such approach that should be considered further to assess viability on the basis of availability of sufficient information to assess consistency of use, implementation and enforcement costs, and likely environmental, economic and social outcomes.

Strategies to ensure effective Landcare programs

The three reports found that the current approaches to Landcare have not been highly successful in achieving SNRM objectives. Three issues were highlighted in the reports:

- there are often conflicting goals and strategies pursued by government;
- there is much to be learnt from the failures and successes of the NLP, and networks and existing organisations can be better utilised in delivering programs; and
- programs need to be outcome orientated and prepared to evolve based on experience.

Recommendation 8 — review legislation and programs for conflicting impacts and revise to ensure consistency

There should be a review of existing legislation regulating natural resource management in the rangelands with the objective of achieving consistency and removing unintended consequences. In particular, there is need for an investigation into whether limits to property amalgamation through conditions on the number of leases held by one entity do have an impact on SNRM in the rangelands.

The three studies mentioned a variety of possible institutional impediments to SNRM in the rangelands. Many of these impediments were unintended consequences of other legislation or policy. All policies should be examined for unintended consequences and amended accordingly.

Recommendation 9 — Landcare programs to be implemented in the rangelands should be designed for rangelands

Landcare needs to be recast in a way that is appropriate for the Rangelands. Involvement of stakeholders in the design of the programs and use of professional organisations in delivering information is to be encouraged.

The impediments to Landcare providing a significant contribution to SNRM in the rangelands are too great to be overcome by the present model. Alienation of pastoralists, client capture, distance and cost, time and resources are all huge obstacles to achieving real change. For Landcare to work it needs clear objectives that are funded in stated time frames. It should be made very clear whether Landcare is a vehicle for change in natural resource management or whether funds can be used for core business such as weed control. If there is a coalescence of the two then this also needs to be stated. The era of community demonstration sites has probably come to an end and it is time to address real on ground change.

Recommendation 10 — programs should be assessed regularly based on outcomes

The criteria for success of Landcare programs should be:

- the extent to which specific outcomes are delivered in specific locations; and
- the contributions these outcomes have to the broader public objectives of sustainability.

Program objectives should be expressed in terms of outcomes and priorities made explicit. They must be achievable, and as far as possible measurable. Performance indicators should be limited to those that reflect the impact of the program, and chosen on the basis of cost effectiveness — the value of the information provided relative to its cost of collection. Formal and informal processes to assess the effectiveness of any program should be established, with mechanisms to incorporate the information into ongoing program development.

Time horizons to establish sustainable outcomes are long in the rangelands due largely to climatic uncertainty. Programs must have a time horizon that matches their objectives.

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