

Towards a common goal: Combining an industry development extension package with a sub catchment NRM approach

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Abstract. A joint engagement and empowerment process was used in south west Queensland to assist landholders improve their natural resource management and enterprise productivity. Meat and Livestock Australia's (MLA) EDGENetwork Grazing Land Management (GLM) workshop equipped landholders with the resources, tools and knowledge to build on their existing grazing land management and planning, at the property level. When integrated with the South West Natural Resource Management (NRM) sub catchment planning program the joint initiative informed landholders about NRM issues and opportunities while assisting in the formulation of sub catchment plans and NRM targets for the sub catchment. Having a seamless approach for landholder engagement through both property and sub catchment level information and planning provided many benefits for all stakeholders involved in the process. Benefits included an increase in the number of on-ground, public benefit projects, backed by best practice grazing land management plans and economising of efforts for technical, extension staff and participating landholders. Continual improvement of the integrated process based on each stakeholder's objectives was on-going throughout the project.

Keywords: Grazing land management, mulga lands, engagement, natural resource management

Introduction

The South West region of Queensland largely consists of the Mulga lands bioregion. It covers about 19 million hectares (12 per cent of Queensland) (Sattler 1986) and is characterised by the dominance of Mulga (*Acacia aneura*) low woodlands, with a semi-arid and arid climate in what is generally considered a fragile landscape. The dominant land use in the region since European settlement has been extensive grazing of native vegetation by sheep, cattle and horses. In recent years goats and the harvesting of kangaroos has become increasingly important to the region's economy.

The land types of the mulga region are generally less fertile and highly erosive, with production limited by the availability of nitrogen (N) and phosphorus (P) (Johnston *et al* 1996a). The rainfall in the region is also low, with a mean annual rainfall of 493 mm at Charleville and decreasing further to the west. There is also high year-to-year variation in rainfall and frequent, extended dry (drought) periods that lead to high variation in the amount of annual plant growth.

Land degradation in the mulga lands is generally a result of loss of ground cover leading to increased water runoff and soil loss. There have been concerns regarding the impact of degradation since the mid-1960's (Mckee *et al.*, 2004) when drought conditions first coincided with increased stock numbers. The processes of degradation were compounded by the availability of mulga as a drought reserve feed which enabled stock numbers to be maintained (Mills, 1989). Disproportionate total grazing pressure to land capability at broad and local scales gave rise to key resource management issues in the region: changed fire regimes; loss of perennial, palatable pasture species; incursion of exotic and native woody weed infestations and feral animal (Sattler 1986), and these concerns remain.

The resulting degradation eventually led to the government supported South-West Strategy which included initiatives to restructure and amalgamate properties in an effort to make them more viable and reduce overall grazing pressure (Johnston *et al* 1996b). The safe grazing carrying capacity programme (Johnston *et al*, 1996a), Great Artesian Basin Sustainability Initiative (GABS) bore drain replacement program were the major natural resource management projects that resulted from the South West Strategy. Past planning mechanisms in the south west region have included; BestPrac and FutureProfit and more recently Pastoral Environmental Management Systems (Pahl *et al*, 2006) and Leading Sheep. In 2000 the South West Natural Resource Management (SWNRM) regional body was established to address natural resource management (NRM) issues through on ground investment in projects and community capacity building. SWNRM like other NRM groups across Queensland needed to engage landholders to address the use and management of the natural resource assets within the South West QLD catchments.

The goal of government policy was to empower community groups at a regional and catchment scale to address NRM issues through programs such as the Natural Heritage Trust and the National Action Plan for Water Quality and Salinity, which supported the formation of the regional NRM groups (National Heritage Trust, 2004).

Planscapes

There has been a long history of research, development and extension (RD&E) programs in the mulga lands particularly concerned with reversing degradation processes at the paddock and property scale. Past RD&E has principally focused on options to improve productivity and natural resource management. Condition reports for the mulga have found that as much as 40 per cent of the region has suffered from pasture and soil degradation (Tothill and Gillies 1992), and given the inherent low productivity it seems unlikely that significant private investment in rehabilitation will occur to restore degraded areas. Therefore it seems inevitable that, where there is little or no production incentive, public investment to rectify degradation will continue to be offered, as it has been with past efforts such as the South West Strategy (running from 1994 to ~2000). In more recent times the responsibility, in part, for improved grazing management and catchment level NRM outcomes was devolved to South West NRM for the Mulga lands in south west Queensland.

The challenge was therefore to develop and support an extension and education approach that both dealt with grazing management and production issues at the property level (cognisant of the fact that individual businesses must remain viable) and that was able to develop collective action among landholders that resulted in improved natural resource management outcomes at the catchment level. Planscapes was a multi-property scale planning approach devised by the regional NRM body to address catchment scale natural resource management issues and focussed on:

- grazing of land types in excess of safe carrying capacities
- absence of fire
- loss of ground cover vegetation
- soil erosion
- salinity
- decline in water quality
- native and exotic weed invasion
- pest animal infestation
- biodiversity loss.

The ideology behind Planscapes was to ensure sustained planning and implementation of good NRM practices into the future (in particular, beyond the funding horizon) by incorporating the knowledge of individuals and groups into the planning activities (Pretty, 2002). Planscapes aimed for collective planning and action among neighbouring landholders towards meeting defined NRM on-ground targets, through sub catchment plans that were coupled with a targeted devolved grants scheme. In addition to that, a program goal was to assist landholders to develop individual property plans. To devise property plans we used an existing industry-recognised planning package; Meat and Livestock Australia's (MLA) *EDGEnetwork* Grazing Land Management (GLM) (Chilcott et al. 2005). The GLM package was customised for the Mulga region matching the regional NRM delivery boundaries.

The Grazing Land Management (GLM) package was developed in response to identification by industry (Meat and Livestock Australia) of the need for a 'product' that would enhance management of grazing lands in northern Australia by transfer of information to graziers. This 'product' includes: 1) description/presentation of the principles, concepts and relationships underlying sustainable grazing land management; 2) the technical process or framework that supports planning, decision-making, and implementation; and 3) design and delivery that would both interest and genuinely assist producers. Decision support and educational tools were developed to aid the adoption of principles for example, determination of the (sustainable) carrying capacity of land types within a property's paddocks according to land condition. Each of the decision support tools were specifically customised for individual properties and participants' issues prior to the workshop. The workshop provided best available local information along with grazing land ecosystem principles to highlight management options and alternatives for graziers. Information covered throughout the GLM workshops included:

- understanding the grazing land ecosystem (climate, land types, land condition)
- managing grazing (carrying capacities, stocking rates and spelling)
- use of fire
- pasture restoration / sown pastures

- tree-grass balance
- managing weeds
- developing grazing land management plans.

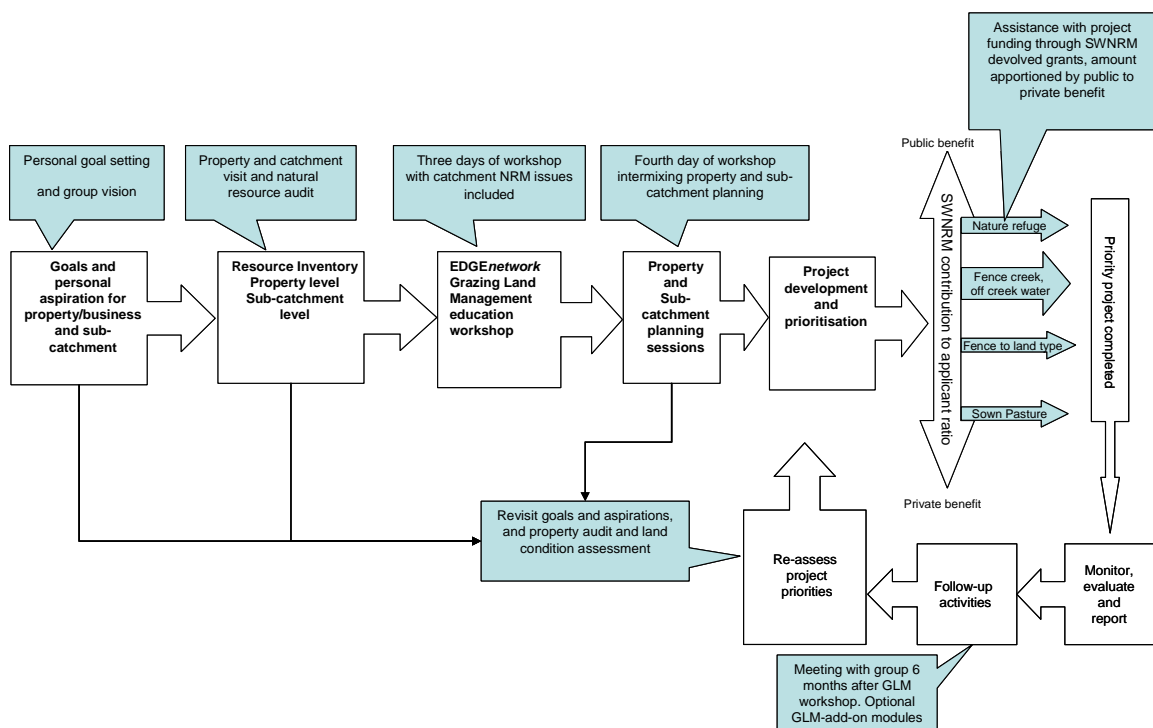
The financial implications of management decisions were also assessed using a case study property with representative land types and a grazing business structure appropriate for the local region. The workshop also draws upon the experience and expertise of the graziers in the participating group. The end result was a grazing land management plan for each business.

The EDGENetwork GLM and Planscapes integrated approach

The GLM workshop aimed at simultaneously improving the profitability and environmental sustainability of commercial grazing lands in northern Australia. The Mulga version of the workshop (Chilcott et al., 2005) collated locally relevant research from the Charleville pastoral laboratory, general grazing ecosystem principles, processes and information on best recommended local practices. As part of the customisation of the package for the Mulga region, the Planscapes sub catchment planning approach was integrated into the existing GLM planning module. The planning section of the stand-alone GLM workshop emphasises on-property planning and actions, culminating in participants defining projects, setting deadlines, and committing to a review of progress at a follow-up meeting (generally six months after the workshop) with little emphasis on collective action or multi-property outcomes and little consideration of the public benefits outcomes of on-farm activities.

The aim of integrating was to take a broader landscape and catchment view and to recognise that many on-ground activities have both public and private benefit, and thus could attract public investment through the regional NRM body. The integrated GLM workshop process is outlined in Figure 1. A pre-workshop meeting familiarised participants with the workshop content and property and sub catchment planning processes and principles. Participants were encouraged to look at personal and business goals, and to focus on their resource inventory in terms of property mapping. The aim was to facilitate the development of a shared vision for the sub catchment for all participants: landholders; technical specialists; and the regional NRM body staff. The vision encompasses the environmental, economic and social goals of participants.

Figure 1. Engagement process for the GLM / PLANSCAPES workshops



The majority of the workshop focussed on the GLM content intertwining references to the benefits of sub catchment planning and collective action. The group worked through goal setting, review of the current situation analysis including calculating property and paddock carrying capacity and land condition, options and alternatives (compiled throughout the workshop as each GLM module is covered), ease and impact analysis, and critical success

factors for the desired project. Additionally, sub catchment level maps and resource condition and trend information was reviewed around four theme areas: riparian, floodplain and wetlands; land and soils; vegetation and biodiversity and exotic weeds and pests

A key success of the approach was having a representative from the regional NRM body at the workshop, participating in discussions, sub catchment planning, and acting as a 'broker' for funding. The final day of the workshop highlighted linkages and processes for both property level (GLM) and sub catchment level (Planscapes) planning allowing participants to integrate their proposed actions and projects with regional plans. The planning materials supplied to participants were designed to allow participants to directly submit to the regional NRM body for funding.

The final in-workshop planning step was the presentation of participants' proposed projects. These presentations include the first steps involved in project implementation and what may be completed by the follow-up day. Monitoring and evaluation of projects was also discussed at this point.

After the workshop, technical staff worked with individual graziers to further develop and implement their projects. Projects with significant public benefit outcomes were submitted to South West NRM for funding through devolved grants. These projects may have been focused towards the group vision and/or achieving targets set in the Planscapes planning process of the workshop and hence had a high success rate of funding.

A follow-up day was held six months after the GLM workshops where grazier revisited, the GLM content and reported on their progress towards their property projects, and the regional NRM body delivered the outcomes of funding applications. Monitoring and evaluation of projects was also discussed at these follow-up day meetings, encouraging participants to re-assess project priorities and their property and sub catchment goals. Participants were then encouraged to start planning for their next GLM project. Additional follow-up days were organised depending on the groups' interests and level of commitment. Individual one-on-one follow-up was also arranged if requested by participants.

What worked?

To date 31 businesses have undertaken the GLM/Planscapes process covering approximately 12 per cent of the mulga lands of south west Queensland (2,148,725 hectares). The follow-up with landholders post-workshop has confirmed that 60-70 per cent of those involved in the program undertook projects and received regional NRM funding which included; fencing riparian and wetlands; alleviating grazing pressure on fragile land types, and; spreading grazing pressure with water points. These projects have definite NRM (public good) outcomes coupled with some additional property based benefits.

The integrated extension process economised the effort of technical and extension staff and took advantage of existing landholder groups (such as landcare and bestprac groups) or social networks within a sub catchment. Information, tools and technical assistance could be targeted to individuals and groups, depending on their land types, issues, existing knowledge and planning status.

An obvious outcome of working with existing landholder networks was that participants developed and implemented public benefit projects (such as fencing off wetlands and establishing nature refuge areas) that they would otherwise have been reluctant to undertake individually.

What didn't work?

The integrated workshop approach provided technical and practical information about grazing land management and a structured planning and implementation process; however external factors, particularly drought, often limited landholders' enthusiasm to participate and their ability to follow-up on project activities. Many participants expressed their desire to act on project plans however due to the extended dry period experienced, many project activities or changes in management resulting from the workshop were delayed.

Participants often found it difficult to commit to a workshop that spanned three days due to the practicalities and expense of being off farm for that time period. However to ensure adequate time to deliver the technical content as well as the additional sub catchment planning it was not possible to shorten the workshop without compromising the delivery. Thus to accommodate landholders, the workshop delivery was split and delivered in a two-by-two day format, where two days were run consecutively one week and followed by another two consecutive days the following week (four days in total, plus the pre-workshop meeting). We found this split delivery

was convenient for participants, however it did add to the cost of delivering a workshop, particularly when GLM deliverers had to make two trips to remote locations, rather than the one trip (if the workshop was run over consecutive three days).

Continuity of staff proved a major difficulty in ensuring successful delivery. A dedicated facilitator and NRM planner would have been ideal to ensure delivery of robust, practical information related to achievement of regional NRM targets. The success of the integrated approach was based on personal relationships between the GLM staff and the regional NRM staff rather than commitment through contractual obligation, however with high staff turn over within regional NRM bodies, there were not always NRM staff available to undertake sub catchment planning at workshops.

Conclusion

The EDGEnetwork Grazing Land Management (GLM) extension package provided ecosystem principles, local research and a framework for informed decision making and planning at the property level. While the South West NRM Planscapes process guided participants through NRM issues identification and action planning at the broader sub catchment level. Integrating the delivery and planning of the Planscapes program within the GLM workshop resulted in many benefits for stakeholders, particularly participating landholders. The integrated approach focused on combined sustainability and productivity outcomes at both the property and sub catchment scale. Developing and delivering a truly integrated extension package required and encouraged an attitudinal change not only among participants but also among the personnel involved as they sought a common understanding of what sustainable grazing land management means and how to reach that common goal together.

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