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THE MISSING LINK. TAKING GLM FROM CLASSROOM TO PADDOCK

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BACKGROUND

The MLA **EDGE**network Grazing Land Management (GLM) workshop is the product of the GLM Education Program (Quirk et al., 2001) supported by MLA. The GLM framework was based on extensive producer surveys questioning the type of grazing information they required. This framework was then tailored, through collating local information and research results, to create region specific workshops for both the Katherine (2003) and Central Australia (2005) regions of the Northern Territory. GLM workshops consist of technical information presented in a way to promote adult leaning, and the introduction of a suite of comprehensive tools to help develop and build on participant's knowledge of maintaining or improving natural resource sustainability, in conjunction with increasing productivity and business profitability.

It was found that while producers responded in an overwhelmingly positive manner to the course, difficulties arose when they returned home and attempted to apply new tools and technical principles to a complex management environment.

In a unique approach, the Northern Territory's Department of Primary Industries, Fisheries and Mines (DPIFM) and the Northern Territory Cattleman's Association (NTCA) collaborated to successfully apply for funding through the National Landcare Program (NLP).

The funding was utilised to employ two GLM Officers (GLMO). Based at Alice Springs and Katherine, the GLMO's key roles are to promote and coordinate the delivery of the GLM workshop and, most importantly, provide follow up support to graduates. This supporting role provides a one-on-one service to encourage the application of the principles and tools learnt in the workshop when making grazing management decisions. These grazing management decisions are made in accordance with a Grazing Management Plan, an outcome of the GLM workshop, specific to each business to guide the progress towards achieving their grazing management objectives.

THE GLM WORKSHOP

The workshop begins by developing the participants understanding of the grazing land ecosystem, its main drivers (climate, grass, animals and fires) and the things that make it tick (soils, plants and pastoralists). The tools to manage land condition, improve the evenness of grazing and enhance diet quality are covered as individual modules. These are:

- Managing grazing
- Managing with fire
- Balancing tree and grass
- Pasture improvement
- Managing weeds

The workshop concludes with a planning session where participants apply the information and tools presented to their business and develop their own Grazing Management Plan.

Participants are provided with station maps (including land type mapping) and pasture growth figures for each particular land type on their property. In the past, NT pastoralists were using figures that were provided mainly from studies interstate where land types, frequency of fire and rainfall all differ significantly to what occurs in the Territory.

Targeting GLM at a regional level allows for a more detailed and focused approach to particular management issues. This increases the opportunity for participants to learn about their specific environment and management systems, and create a realistic approach to sustainable grazing management.

Delivered through a 'hands on' approach, the workshop promotes group discussions, sharing of knowledge and observations, and encourages personal involvement in the learning activities.

The GLM workshop incorporates an extensive range of decision support software tools, including GRASP¹, Stocktake², Vegmachine³, HowOften⁴ and Rainman⁵. An important role of the GLMO is to offer assistance to graduates in using these decision support tools when developing their Grazing Management Plans.

Two GLM courses have been conducted in Katherine in 2004, with both courses receiving very positive feedback. A third Katherine region workshop is due to be held later this year. A pilot course for Central Australia was run in 2004, with the first workshop also to be held later this year. It is expected that the demand for GLM workshops will remain positive. Through time, the material delivered in the workshop will adapt to incorporate the outcomes of current and future research, and evolving grazing management practices.

PRODUCERS INCORPORATE THEORY ON A PROPERTY SCALE

Due to the funding received as a result of the innovative partnership between the NTCA and the DPIFM, GLM graduates are offered intense post workshop support. Throughout the workshop, producers learn and develop an appreciation of sustainable grazing management principles. They leave with the motivation to begin implementing their newly acquired knowledge and skills guided by the Grazing Management Plans they have begun to develop.

However, once they are home, away from the support of the workshop coordinators and other participants, they are faced with a multitude of management issues and decisions; as is the nature of managing a cattle property in a variable climate. This dose of reality tends to dampen enthusiasm as the demands of each day take precedent over the best of intentions.

In addition, many producers have a low level of confidence in operating and utilising the outputs of computer based decision tools. As a result, they often have trouble translating the theory into management outcomes for their property.

The support and encouragement provided by the GLMO's prolongs the learning experience of land managers so that it extends beyond the classroom. Through their participation in the GLM workshop and continued association with the GLMO, pastoralists have the opportunity to become proficient at manipulating mapping programs, determining dry season forage budgets, calculating short and long term sustainable carrying capacities, carrying out land

condition assessments and enhancement activities as well as documenting and monitoring weed and Grazing Management Plans. These activities are implemented specific to the land types, infrastructure and management scenarios present on their property, providing reassurance in their applicability.

GLMO's are the missing link required to catalyse producers to take the GLM workshop and have it deliver real outcomes for productivity, profitability and sustainability; in the short and long term. This is achieved through the finalisation and implementation of the Grazing Management Plan born out of their participation in the GLM workshop, and the confidence gained through the support of the GLMO to apply the skills and knowledge they have acquired.

¹**GRASP** is a computer simulation model that calculates the growth of northern Australia's native pastures. Developed by Queensland Department of Natural Resources and Mines.

²**Stocktake** is a paddock scale land condition monitoring and management package developed to provide grazing land managers with a practical, systematic way to assess land condition and long-term carrying capacity, calculate seasonal forage budgets and to record and store monitoring data. Developed by Queensland Department of Natural Resources and Mines.

³**Vegmachine** is a software system, which uses long-term sequences of Landsat imagery and other data to produce maps and graphs of trends in land cover indices.

⁴**HowOften** is a program that manipulates long term rainfall records to view trends in historical rainfall events.

⁵**Rainman** is a software program that provides long-term daily rainfall trends including information on the Southern Oscillation Index (SOI), sea surface temperatures and monthly average temperatures for 3700 locations around Australia.

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Quirk, M.F., Oxley, T.J., and Blakeley, S. (2001). Developing an education program in grazing land management for livestock producers in northern Australia. North Australia Beef Industry Conference Proceedings, Kununurra, Western Australia.