

A National extension approach supporting regional paradigms – lessons from the Grain & Graze program

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Abstract

Grain & Graze is a partnership between four of Australia's major Research and Development Corporation's (RDC's) – Meat and Livestock Australia, Australian Wool Innovation Ltd, Grains Research and Development Corporation and Land & Water Australia. In conjunction with nine regional project regions, these RDC's have combined their expertise and resources to form a program that is committed to an integrated approach to addressing profit, environmental and social issues impacting on mixed farming systems.

The program aims to have 6800 producers implementing improved mixed farming practices as a direct result of the program by June 2008. To meet this huge challenge a robust extension program, underpinned by a strong learning foundation, has been implemented to support achieving adoption.

The National Change-On-Farm Strategy provides a cohesive and coordinated framework for supporting regional and generic extension activities that will lead to practice change. It details the critical components of the extension methodology for this program, providing guidance for regional groups on the mix of approaches that support awareness, participation and motivation for change practice.

Three key learnings: (1) The Change On Farm strategy provides guidance to the regions on how to develop an effective on-ground extension program to achieve project targets for change; (2) A vibrant, meaningful national strategy requires regional input, ownership and commitment to ensure this framework supports achieving the programs goals; (3) Processes and structures implemented in the formative stage of this program are contributing to the building of a committed team with a genuine understanding of the connections between issues and on-ground systems challenges for extension.

Key words

Rural extension, change, on farm strategy

Introduction

Investment in rural extension is commonplace throughout regional Australia and forms the basis for the development of farmer learning programs to support effective change management in an ever increasing risk conscious environment. The effectiveness of these programs is critical as people, dollars and time are finite resources. The challenge is to build strong, productive networks and streamline delivery pathways to develop activities that are targeted and have the capacity to reflect and capture outcomes that inform the development of future learning events and enhance the capacity for on-ground change to be managed within a production system.

Grain & Graze is an example of a mixed farming systems R, D&E program that has been challenged with the task of developing a national extension strategy that provides a framework from which regional projects can develop their own regional plans that link to the national goals and targets for change this program has set. The current National Change On Farm (N.C.O.F) strategy has been developed to provide a cohesive and coordinated framework for supporting regional and generic extension activities that will lead to practice change. It details the critical components of the extension methodology for this program, providing guidance for regional groups on the mix of approaches that support awareness, participation and motivation for change practice.

This paper will describe HOW and WHY this national strategy is enhancing the capacity of the regional projects to develop integrated key messages that link to the triple bottom line goals of this program.

Background to the Grain & Graze program

Grain & Graze is the largest research and extension program of its type to offer southern Australia's mixed farmers the opportunity to significantly increase their profitability while better managing natural resources including water, soil and biodiversity.

The Grain & Graze Program aims to achieve:

1. More profit for mixed farmers (especially for the pasture phase of rotations).
2. Better water quality (eg. reduced recharge via incorporation of deep-rooted pastures).
3. Improved health and diversity of plants and wildlife, both on farms and across wider catchment areas.

The Program is the result of a partnership between four of Australia's top Research and Development Corporations (RDCs) - Meat & Livestock Australia, Australian Wool Innovation Limited, Grains Research & Development Corporation and Land & Water Australia. It combines the knowledge and expertise of the four national partners with new on-farm research into a unique Australian whole farm approach. Grain & Graze will meet the needs of farmers through practical on-farm trials, demonstration sites, hands-on training and mentoring support.

At a regional level Grain & Graze is working with local farmer organisations, Catchment Management Authorities (CMAs), state agricultural agencies, CSIRO and universities in focus regions across Australia's mixed farming zone. This national program stretches from the Maranoa / Balonne Region of south west Queensland to the Northern Agricultural Region in the northern wheat belt of WA (Figure 1).

The regions for the program are:

- Northern Agricultural Region, WA
- Avon, WA
- Eyre Peninsula, SA
- Mallee (Vic, NSW, SA)
- Corangamite, Glenelg/ Hopkins, Vic
- Murrumbidgee, NSW
- Central West / Lachlan, NSW
- Border Rivers, NSW/ QLD
- Maranoa / Balonne, QLD

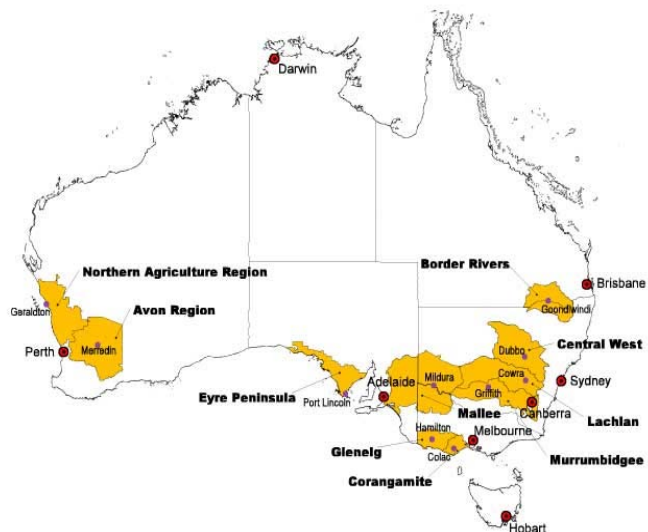


Figure 1. Map of Grain & Graze regions

Regional snapshots

The Grain & Graze project regions are representative of a large proportion of the temperate and Mediterranean agricultural production zones. The diversity of these regions is clearly evident with climate, soils, rainfall, vegetation and population heavily influencing the quality and type of products generated for the domestic and international market places. It is an important agricultural production zone that needs to be supported in the long term to remain sustainable from many angles – profitable businesses, healthy landscapes and viable communities.

Investigations into developing strategies to enhance sustainability of the mixed farming communities has been a priority of four major funding bodies who have, independently, had a range of investment priorities in these regions funding production and natural resource management programs with a predominantly industry focus. Thus a triple bottom line focus for the Grain & Graze program provides the underlying foundation to focus

thinking and planning by all stakeholders that considers the need to develop project activities that promote integrated key messages reflecting social, economic and environmental sustainability.

Why a national strategy?

A program such as Grain & Graze has recognized the need for a coordinated approach to its extension program. Underpinning the extension strategy is the belief that if change is to happen, information and communication processes cannot be left to an *ad hoc* approach in the hope that individuals will eventually identify their needs and take appropriate action. The project has a timeline for completion in June 2008 and has set national targets for farmer awareness, participation and adoption that need to be met at completion of this investment phase.

If the program was to leave it to chance that farmer learning and adoption would naturally occur we most probably won't meet the targets that have been set as people have differing needs and will inherently make decisions in a different way. Thus, the framework has been structured to highlight the necessary mix of activities that takes into account the different contexts and experiences of people and the different ways in which they prefer to learn.

The diverse range of research and extension expertise in each regional project is assisting the development of relevant key messages that support the regional project goals of considering the collective impacts of production, environmental and social effects across the landscape. Therefore, the integration of the extension networks for each region has been critical to identify the key messages within the local environment and determine which delivery pathways will support effective transfer of information to build knowledge and skills. The premise being that strong working partnerships, aligning people and resources effectively, will limit duplication and encourage a sense of teamwork that will overtime be a positive challenge for traditional organisational cultures and boundaries in each of the regional projects.

Farmer engagement in the program

In developing key messages for transfer to target audiences, there are various levels of engagement that have been considered by the program. A bi-annual survey is built into the monitoring and evaluation plan to measure these levels of engagement based around awareness, participation and adoption within the program. In order to ensure the program has quality results from this process, definitions the program uses for these three levels of engagement are as follows:

Awareness

- 24,000 farmers aware of Grain & Graze activities

This phase can be seen as a continuum ranging from passive to active awareness of the program. For example – a general media release may increase a persons awareness with no further action taken (passive) compared with a person who actively reacts and wants to pursue involvement or come to a field day etc. which may be considered a more active response to becoming involved (Stewart 2005).

Participation

- 15,000 farmers having participated in Grain & Graze activities

This phase can be seen as a continuum ranging from low level to high level participation in the program. On the whole though, a person in the participation phase of the program is seen as being actively engaged in the learning process and seeking opportunities to support their learning needs through participating in training, attending field activities, sharing experiences through farmer group networks, trialing ideas on-farm and generally raising their level of knowledge and skills to enhance decision making and change management on-farm (Stewart 2005).

Adoption

- 6,800 farmers having adopted desired change-on-farm

This phase can be seen as a continuum ranging from targeted component change through to broad based systems change. Overall, this phase indicates that some type of change has been implemented to support an enhanced environment where profitable, social and natural resource impacts can be measured as a direct result of the program (Stewart 2005).

Agreement on these definitions has been achieved within the program to ensure project activity development is accurately linked to the level of engagement defined above and will be captured accordingly. These definitions provide a quality assurance mechanism so that awareness activities are not captured as a participatory target which in the long term could misconstrue the real level of engagement and learning that has occurred.

Objectives of the National Change on Farm strategy

The National Change On Farm strategy is a framework that illustrates a range of tactics, that in combination, will enable Grain & Graze to enhance the probability of meeting its program objectives and targets for change which are set at 6,800 farm businesses make changes on their properties that will see them more profitable, sustainable and socially rewarded.

The tactics pursued in this strategy are based on those recommended by the Cooperative Venture for Capacity Building for Innovation in Rural Industries. The Cooperative Venture takes a very broad perspective about what extension is and how it can be structured to maximise potential adoption of new farm practices. The following definition of extension (Figure 2) from Coutts and Roberts (2003) provided guidance to the Grain & Graze program when embarking on the initial development of an extension strategy that would meet the needs of the program goals.

This framework was chosen for the following reasons –

1. Research & Development Corporations had invested in developing the Coutts model and it was seen as being fairly robust in it's design;
2. The framework lined up well with experiences in the Sustainable Grazing Systems program, linking theory and practice to achieve program success; and
3. Application of this framework would test the theory which from observation indicated what constitutes a “good” extension program (R Price, Pers comm. 2006).

Extension comprises of activities that may provide:

a facilitative framework for group learning, a specific learning event; a process for developing/modifying specific management practices or technologies; individual mentoring; and on-going access to needed knowledge and information. Each of these different activities complements the others in the overall process of capacity building (Coutts and Roberts 2003.)

Figure 2. Extension definition

The tactics that have been identified to form the basis for the National Change on Farm Strategy from which activities can be based around to underpin success are:

1. Group facilitation/empowerment

This tactic focuses on increasing the capacity of participants in identifying their own needs and pathways to support learning. Some national funds are allocated to support regional initiatives where a broad program benefit can be demonstrated, however each region is being encouraged to identify the key messages that may be

delivered via this tactic and the appropriate pathways that support it. Such pathways may include locally facilitated discussion groups, field activities, team building and an advocacy support program.

2. Communication

This tactic focuses on providing a range of broad information that individuals and groups can access on a needs basis. To date the program has developed a national communication plan and each region has been encouraged to develop their own plan that links directly to the national objectives.

3. Training

This tactic focuses on delivering specifically designed training programs/workshops to targeted groups of landholders or community members to increase understanding or skills in defined areas. These are delivered in a variety of modes and learning approaches to cater for preferred learning styles of participants.

4. Mentoring and exchange

This tactic focuses on providing a range of developmental opportunities for both individuals and groups who are participating in the program. It may include a technical expert visiting and providing advice, diagnosis and recommendations or it may be an on-going facilitating mentor relationship, which provides a sounding board for decision-makers. Mentoring and exchange will be pursued at all levels of the program, with a strong emphasis on fostering synergies between the national and regional initiatives to ensure a shared capacity for achieving the programs goals.

5. Technology development

This tactic focuses on working with individuals and groups to develop specific technologies, management practices or decision support systems, which will then be available to the wider industry. The national program will provide support where needed to value add to regional trials, field days and on-site visits which will be driven by the needs of each region. Investment in generic research and extension driven by joint national and regional needs is being undertaken also.

6. Extension coordination

This tactic focuses on the important of a dedicated extension coordinator to oversee the implementation of the strategy whether it is at a national or regional level. Current structures within the Grain & Graze program include a National Extension Coordinator (NEC) who oversees management of national projects with a strategic focus.

The role of the National Extension Coordinator has been developed to work with the regional stakeholders to develop extension plans that fit the exact framework but have a regional focus. Therefore, these tactics reflect the mix of approaches that either nationally or regionally can be used as planning tools to support the program achieving the overall targets for awareness, participation and adoption of sustainable Grain & Graze practices. Figure 3, is a summary of the relationship between targets and tactics that the program is pursuing in the NCOF strategy.

Target	Awareness 24,000	Engagement 15,000	Adoption 6,800
Tactics	1. Group facilitation / empowerment		
	2. Communication		
		3. Training	
	4. Mentoring and exchange		
		5. Technology development	
	6. Extension coordination		

Figure 3. Summary of the link between tactics and the farmer engagement process in the National Change on Farm strategy

Regional paradigms – similar but different?

Each regional project has its own issues, priorities for research and extension and targets it needs to meet for awareness, participation and adoption. The uniqueness of the regions and approaches for tackling their issues within their environment is strengthening a sense of enthusiasm in being able to develop relevant on-ground activities that are addressing the major issues identified by each project.

A working knowledge of the differing levels of farming systems decision making provides for maximising the transfer of learning process between extension and the regions. "To maximise the knowledge that is transferred through training, by identifying possible activities and environments in which learning processes are effective at a both an operational and strategic level is critical (Billet 1996). Learning styles differ among individuals and it has been important for the team to value the extra time taken to plan activities well, and clearly understand the link between the problem and subject matter, before deciding on the most appropriate method of investigation. The following example highlights the planning process that is being used to support regions to develop their own plan based on regional objectives but closely linked to the national framework.

Development of the Northern Agricultural Region extension plan

In November 2005 an extension planning session was undertaken with the key extension stakeholders involved in the project. The objective was to collectively identify the key messages the project wants to disseminate, how they will achieve this and who will be responsible. The team were asked the following question - *What are the key things we are learning in this project that we want to extend across the project region?*

The agreed response from the group was - *How to successfully establish an economically viable perennial pasture for the Northern Ag Region.*

In order to explore this issue further and identify the key components of the various “sub” messages, a brainstorming session was undertaken to highlight the key topics that support the overall strategic message the group had identified. The topics identified are summarised as follows:

- **Perennial species recommendations**
- **Grazing management**
- **Benefits of perennials:**
 - Profitability
 - Feed gap / water use / stocking rates
 - Labour
 - Erosion control
 - biodiversity – value will be measured over time of project
 - nutrients
- **Downsides of perennials**
 - Weediness
 - Risk (establishment)
 - Infrastructure / Return on Investment
 - Persistence
- **How to manage the pasture?**
 - Investment guidelines
 - Species / Establishment
 - Grazing management strategies
 - Matching feedbase supply and demand
 - Stubble grazing / grazing cereals
 - Gather alternative sources of information – where from? / Incentives etc

In developing a regional extension strategy for the Northern Ag Region the following planning matrix was used that fitted the exact structure of the National Change On Farm framework. It was used to ensure a genuine understanding of the connections between issues and on-ground challenges, appropriate project activities and how best the information and delivery mix can contribute to a higher level of understanding of the complexity of mixed farming systems.

The framework is transferable to each region and takes into consideration the different conditions, issues and mix of approaches to extension. It is also the same as the national framework the NEC has used to develop the national extension support program. The clear intent of the messages identified will ensure timely farmer engagement, critical for a target audience with a high level of time demands for all sectors of their local community. An extension program that is well planned and links intent to outcomes is going to be robust and effective in achieving change. Table 1 below summarises the links between the identification of key messages and appropriate delivery pathways to develop a practical extension plan for the project.

Table 1. Extension planning tool for regional Grain & Graze projects

Tactic	Key Message	Pathway	Responsibility	Target audience	Time line
Group facilitation & empowerment	What are we learning about pastures	Demo farm forum Field walk Discussion group	Project officer	Project staff and farmers	Sept.06
Communication	Perennial pastures improve profitability	Farm weekly Group newsletter	Regional coordinator	WA farmers	Quarterly
Training	Profitability of perennial pastures	STEP workshops	Project officer	Initially with demonstration farmers and then wider community	Autumn 2006
Technology development	Efficient use of feed resources in the livestock is a major factor determining farm profitability	PAM – Pastures from space	Project officer	Farmer group	06 - 08
Mentoring and exchange	We can learn about perennials from another region	Bus trip	Project officer	Farmer groups	06 - 08
Extension coordination	Extension approaches need to be linked to the National Change on Farm strategy	Planning / reflection meetings	Regional coordinator	Project officers	06 - 08

Outcomes from the planning session

This exercise has highlighted the flexible nature of the National Change On Farm strategy to be directly used to develop regional extension plans that are relevant, focused, integrated and doable. The group identified that a package of activities is needed to support the dissemination of key messages regarding profit, natural resource management and social impacts. Other Grain & Graze regions have expressed an interest in using the same approach for planning to ensure all stakeholders are involved in the development of integrated key messages that are considerate of the triple bottom line program goals. Regional confidence in implementing an effective extension plan will be a positive outcome from this approach and enhance the capacity for the Grain & Graze program to meet its goals.

Conclusions to date

Challenging traditional borders and boundaries of extension planning and thinking is critical. Timely and effective engagement with good processes in place may help fast track the time required to support the awareness and understanding that is essential before we can expect attitude change and practice improvements to occur (Stewart 2003).

Therefore, to enhance the probability of achieving the goals of a national extension program it is critical that a direct relationship exists between the on-ground projects and national objectives;

- The planning matrix can be utilised for both regional projects and strategic program planning ensuring a clear understanding by all stakeholders of the need for development integrated messages and identification of key delivery pathways;
- On-going support to the regions by the National Extension Coordinator is helping the regions to develop extension strategy's that are flexible but focused;
- The National Change On Farm strategy would mean very little if not supported by the development of regional extension plans that collectively give this strategy meaning and ensures it is a living document; and
- The Grain & Graze program is confident that the implementation of a National Change On Farm strategy, to raise program awareness, encourage participation and support adoption of sustainable mixed farming practices, will enhance the capacity of the regions to meet their project goals and deliver on their targets for change.

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