

Changing evaluation approaches for extension and education intervention – drivers and institutional responses in Australia¹

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ABSTRACT Purpose: *The increasing pressures on research, development and extension funding agencies and industry bodies mean that there is an increasing demand to better evaluate and report the effectiveness of projects and programs being funded or undertaken. This paper describes these pressures and the approach taken by some agencies and bodies to respond to this need.*

Methodology: *The paper draws on the literature and experience of the author in working with a number of agencies and bodies in Australia and New Zealand to understand the evaluation needs and describe an approach being taken to improve the evaluation systems being used.*

Findings: *Increased pressure has been put on agencies and organisations funding extension and extension programs by government and farmer levy-payers to demonstrate the benefits being gained from such programs. This has been brought about by budgetary pressures, competing demands and the increasing voluntary nature of farmer levies used to fund research and extension projects. Increasing interest in environmental outcomes has added to the pressure of demonstrating impacts for dollars invested. The approach being developed with a number of agencies and industry bodies is to better align project level evaluation requirements with organisational level reporting, focusing on common categories and metrics, direct impacts and an improved ability to collate across projects to tell the 'organisational impact story'.*

Practical Implications: *There has already been some evidence that by better aligning project and organisational needs and being directive in the type and format of evaluation and reporting information needs from projects, organisations have been better able to demonstrate their effectiveness and value to stakeholders. This work has highlighted the need for organisational information management systems to be able to capture the improved information being provided by projects for collation and higher level reporting needs.*

Originality: *This paper draws directly from approaches being trialed, developed and undertaken in Australia and New Zealand and provides insights into their application in other contexts.*

KEY WORDS: Agricultural extension; evaluation systems; organisational reporting

Introduction

With an increasing pressure on extension and education services, the demand for and importance of evaluation is growing. The previous notion of governments supporting an extension service as a public 'service' is no longer tenable. Governments continuing to maintain extension capacity or continuing to provide funds to privatised extension services or NGOs link this funding to specific priority objectives. Similarly, private sector and NGO organisations which use extension as an instrument for sales or facilitating change do so with specific objectives and outcomes in mind. Given the competition for funds and resources, the changing arena and the complexity of issues being addressed by extension and education, in collaboration with other stakeholders, there is an increasing demand to monitor and evaluate these services. This calls for monitoring and evaluation approaches that guide projects strategically as they unfold and capture their unique contributions towards development objectives.

This paper provides an overview on the institutional response in Australia and New Zealand to the building imperative to better evaluate extension programs.

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Extension and its Evaluation in Australia

For over 100 years, agricultural extension and education was accepted as a key service delivery activity by state governments to rural Australia (Jennings et al 2011; Coutts et al 2005; Hunt et al 2012). This included providing agricultural educational support for returned soldiers from two world wars in taking up farming 'selections' on their return home. For most of the twentieth century, agricultural production drove the economy and was the country's major export. The critical issue for measuring the success of agricultural extension services was how well they were received from the rural voter base – and the contribution of agricultural exports to the national economy.

In looking at the changing face of extension in Australia over the last century, Hunt et al (2012) concluded that *the evolution and organization of Australian agricultural extension has been propelled by a combination of drivers; firstly crises around food security, national development and conflict; secondly an enlightened need for economic reform and; thirdly by the influence of advances in academic thinking*. Coutts et al (2005) referred to two converging trends in the Australian extension environment being: *severe environmental and global problems facing rural landholders; and an increasing focus in extension on holistic development, human capacity building and facilitating interdependent relationships (p8)*.

As the proportion of the population engaged directly in agriculture – and the importance of agriculture in export earnings - dramatically declined in the latter half of the twentieth century in most western nations - including Australia - the role of government in providing such services came into question (Hunt et al 2012). At the same time, the rise of the private sector and budgetary pressure on governments resulted in questions about the role of government in agricultural extension and education (Coutts 1994). This led to the development of extension policies which focused on "market failure" and "user pays". Government extension programs had to pass the test of whether they were providing a needed service that could/would not be provided by the private sector – where they contributed to national outcomes and how different groups benefited.

Extension Evaluation

The responsibility for extension which focused on improved productivity moved from government to agricultural industry *Research and Development Corporations (RDCs)* funded through a mix of public and producer levy-funding. Value for money became a critical issue. A recent Productivity Commission report on Rural Development Corporations in Australia (Productivity Commission 2011) recommended that:

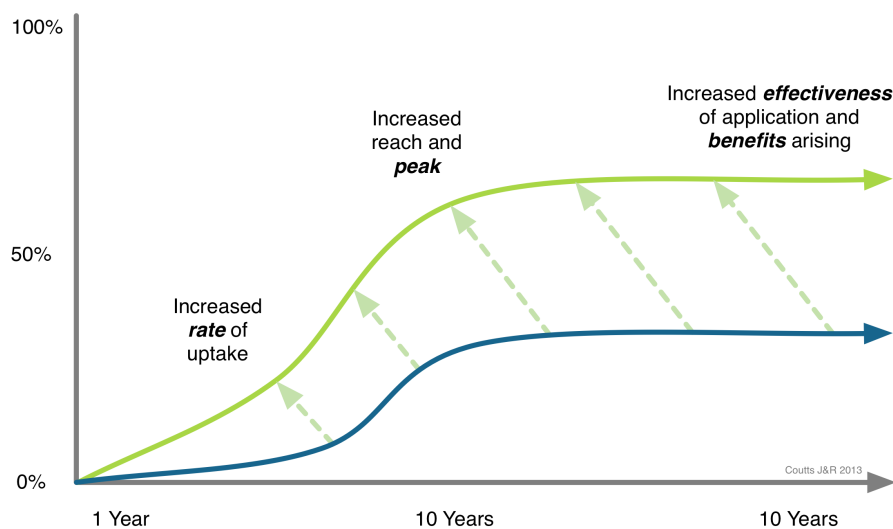
- The Primary Industries and Energy Research and Development Act 1989 and the statutory funding agreements for industry-owned Rural Research and Development Corporations (RDCs) should be amended so that all RDCs are required to continue to participate in a regular, transparent and comprehensive program-wide project evaluation process, such as that currently facilitated by the Council of Rural Research and Development Corporations (CRRDC).
- Through the CRRDC, the RDCs should continue to explore means to increase the robustness of this evaluation process, including through a greater emphasis on revisiting past evaluations to assess whether assumptions about such things as adoption rates and additional extension-related costs have proved to be reliable.

The evaluation focus with the RDCs has been on 'Benefit/Cost' and 'Internal Rates of Return' which they had applied to their previous research project emphasis – and which they also tried to apply to extension and education programs with various degrees of success. (Rural R&D Corporations 2008; 2015). A key issue was the lack of underpinning data – which is picked up in the second dot point above - about practice change on which to base economic assumptions of future impact.

At the same time, federal government funding started to be allocated to extension and education programs aimed at addressing environmental concerns – water quality, erosion, salinity and biodiversity. These programs focused on capacity building in communities as a way of addressing these desired shifts in longer term environmental outcomes. Evaluation approaches needed to be more participative and capture how intervention had impacted on understanding, attitudes, skills and motivation. The Australian Government Natural Resource Management website reinforces that *The Australian Government is committed to demonstrating and accounting for intermediate and long term outcomes and improvements from its natural resource management (NRM) investments. Monitoring and reporting on progress and improvement is an essential element of effective programme management* (<http://www.nrm.gov.au/my-project/monitoring-and-reporting>).

In a review of extension and extension programs aimed at reducing the environmental impact of farming on the Great Barrier Reef of North East Australia, Coutts (2014) emphasised the need for *regional targets to be set against priority practices that impact on water quality which then provide a basis on which to evaluate and report on progress to funders....to enable ease of collation of these data between industries and regions – and effective reporting to Paddock to Reef and MPAG - a consistent monitoring and evaluation and reporting framework will be needed.*

In considering how extension adds value to other activities being used to bring about change, Coutts (2014) proposed the following basis:



The difference between the ‘business as usual’ (bottom line) and the change over time with extension (top line) is the value that extension is providing. This impact needs to be captured to be quantified – or qualified!

Program logic and the use of “Evaluation Log Frames” – long-used in development programs in lesser developed countries – were introduced for natural resource management programs and projects to demonstrate the underlying logic of building capacity as a stepping stone and to provide a framework for evaluating process and impact at various levels (Australian Government 2015). Different evaluation methods were needed for this purpose. This approach also started to be accepted and applied to the RDC funded productivity-focused extension and education interventions.

Increased pressure has been put onto agencies and organisations funding extension and extension programs by government and farmer levy-payers to demonstrate the benefits being gained from such programs. Although the evaluation of many of the individual programs has improved over time, there has been a lack of consistency in the way evaluations are undertaken and hence the difficulty at the

agency or organisational level to “tell their story” about how extension and education programs collectively are making a difference. Within Research, development and extension organisations, there is competition between where best to spend the investment dollar – and to date, extension has been lacking in making its case for its share of funding. Increasingly, producers who provide levies for RD&E in their industries vote every few years on whether they will continue to pay such levies. This has been a significant trigger in addressing evaluation from the organisations that provide the RD&E for those industries.

As a result there has been an increase in the development of organisational level evaluation frameworks for extension and education programs to provide this consistency, allow for collation across programs and at different reporting levels and to better demonstrate value for the investment dollar.

Approach

This paper draws on the personal experience and documentation of the author in working with large extension programs and research, development and extension organisations in Australia and New Zealand in addressing the need for improved evaluation of extension.

Central to the approach is being ‘systematic’ as per Patton’s (1997) definition of evaluation:

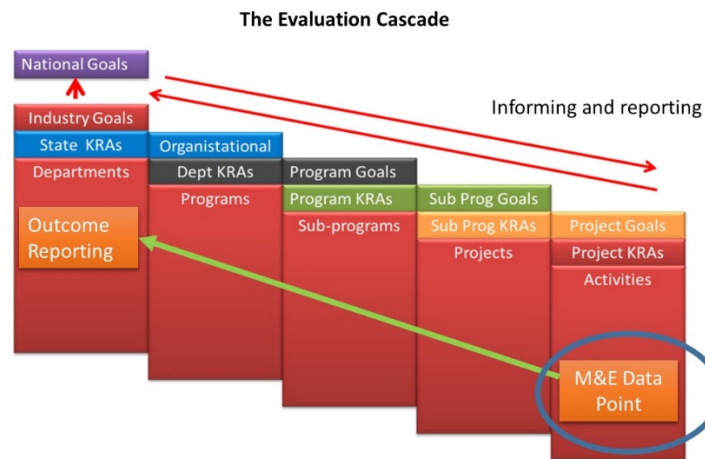
“The **systematic collection** of information about the: activities, characteristics, and outcomes of programs to make judgements about the program, improve the program, and/or inform decision about future programming.”

During the process of working with these programs and organisations the following activities have been used to address the need to be systematic in meeting the evaluation needs:

1. In each case, the organisation/program has itself identified the need for an improved framework and process to evaluate its extension (and R&D) funded projects. They have sought out external expertise to assist with this development;
2. The strategic documents have been analysed to clarify what it is that the organisation/program is tasked with delivering (objectives, targets) – and teasing out the actual (direct) impacts which it can directly influence;
3. Interviewing key stakeholders in terms of their expectations and what type of evidence/reporting would meet their needs in better understanding and assessing the value of the organisation’s /program’s contribution for funds invested.
4. Developing a set of statements, graphs, indices and diagrams which would capture the key performance indicators for the program or organisation (a “dashboard”) – and test these with the organisational management and key stakeholders.
5. Developing a set of common and appropriate categories and metrics covering demographics, types of activities and engagement, capacity and practice change and impact (productivity; economic; environmental and social) to guide data capture and reporting against the dashboard.
6. Modifying contracts, milestone and final reporting requirements to reflect strategic reporting needs using the agreed list of categories and metrics and to come in line with annual reporting requirements.
7. Providing a guide to monitoring and evaluation methods for project management and staff which will provide the type of data required to meet the reporting requirements.
8. Working with organisational/program management and IT staff to ensure that data management systems (internal or contracted out) can capture the data in the categories and metrics required and can collate and present them in line with the dashboard and reporting requirements.

The Cascade

The aim of coming with common categories and metrics across projects is to allow collation and consistent required reporting at different levels. As reporting is directed at higher levels, the level of detail reduces, but the power of collation across projects and programs increases. This is shown in the diagram below²:



For example, if an industry goal is to “increase the hectares of sugar being produced in North Queensland using precision farming to minimise run-off of Nitrogen”, then unless key data is collected at the project level (hectares of sugar; precision farming practices; nitrogen run off impacts) then it becomes impossible to accurately report at this industry level. The project level may well also collect data on number of producers involved in projects, types of enterprises, types of activities run and the level and type of producer involvement etc. – and that may be critical for project monitoring and reporting – but unless it captures the key metrics also relevant to higher level reporting, then its contribution can be lost. Likewise, project reporting needs to always be linked/tagged with the higher level objectives and goals.

Categories and Metrics

A category is a way of capturing data about such things as demographics, types of activities, types of practices etc. Without an agreed set of categories and metrics, the projects in the same program or organisation can report in quite different terms – which then makes it quite difficult to collate data across projects. For example, in looking at categories for capturing engagement in the beef industry within one large program, there was discussion around different types of cattle production – breeders, fattening, intensive (feedlots) etc. The projects delivered activities across all of these types of production. However, in the end – for higher level reporting – it was agreed to have a single category of “head of cattle”. So, a category question was “approximate number of head of cattle managed by the producer engaged in the activity” – irrespective of the type of operation and mix of cattle on them. For the purposes of higher level reporting, this was sufficient. At this level, a statement such as:

During 2014/15, our program has engaged with producers managing 30% of the beef cattle herd grazing on 2 million hectares herd in the state around pasture management resulting in an increase in improved pasture management practices impacting on 20% of the total herd.

Again, at project level, data about the different production systems, numbers and types of producers and specific practices around pasture management (for example, rotational grazing; planting of legumes) may also have been captured and used in reporting. However, the categories used for higher level reporting and collation were: ‘total head of cattle’; “changed pasture management

² KRA = Key Result Area = Achievable objectives

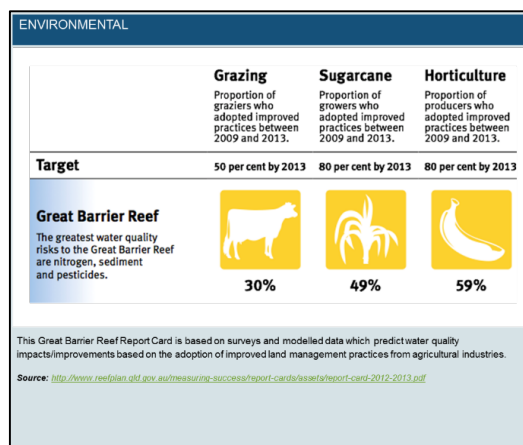
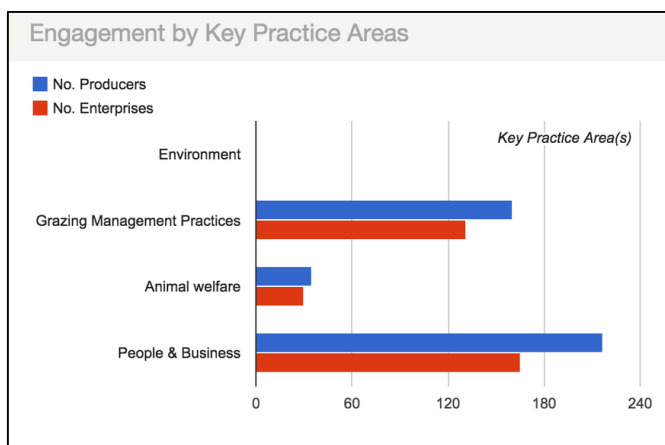
practices”; and “hectares affected” – which were common to all projects to allow this higher level collation and reporting.

A metric is a performance measure. This could be in terms of productivity (kg of beef produced/ha), economics (Nett returns/ha); environment (% ground cover); or social (Average rating score for contentment with farming lifestyle). The critical aspect is to have an agreed set of metrics that all projects use with the underpinning data to be provided to calculate it and to demonstrate achievements and trends.

Dashboards

As noted earlier, a ‘dashboard’ is a set of statements, graphs, indices and diagrams which would capture the key performance indicators for the program or organisation. These could relate to such things as ‘number of enterprises engaged’ or ‘percentage of herd impacted on by improvements in pasture management’ or ‘improvements in kg/ha/year in target herds’. These reflect the “Key Result Areas” that the program or organisation is mandated and tasked to address – the rationale for the investment by government, the organisation or its stakeholder investors. Two examples below show the use of a graph to capture collated data related to the extent of engagement around key practice areas as well as the use of a diagram to highlight practice change against targets across three industries (Queensland Government 2014).

Examples of Dashboard Components



M&E Methods

By clarifying the data required from evaluation and for reporting purposes, there is no need to dictate the evaluation methods that project leaders might use in capturing this information. There are a range of methods available – some more appropriate to different types of projects and budgets. However, a guide can help in assisting choice and helping projects to better comply with reporting needs. For this purpose, a table such as the one below can assist in the process:

Guide to Project Monitoring and Evaluation Methods

Level	Monitoring and Evaluation Questions	Methods
1. Project process, activities and outputs	<ol style="list-style-type: none"> Are planned structures, management and staffing in place and operating effectively? How well did planned collaboration occur – what did it add to the outcome? Were planned activities undertaken and outputs produced – and how well were these done/produced? What were the barriers, enablers and lessons learned from implementing the project? 	<ul style="list-style-type: none"> Good project records on activities Structured debriefs with project teams, Steering Groups and collaborators Peer review – on process and content Feedback sheets – process questions Informed person interviews and surveys

2. Awareness and capacity gains	<ol style="list-style-type: none"> 1. What was the reach of the project – in terms of awareness and type of engagement? 2. What key messages from the project have been recalled? 3. What gains were made in terms of understanding, skills and motivation (targeted and other) in what groups of people, where? 4. What was most helpful in supporting capacity change? 	<ul style="list-style-type: none"> • Project records on distribution and access of information and tools – including Google statistics • Media analysis and survey questions re recall • Feedback sheets – questions re specific gains in understanding, skills and intentions • Follow up survey – questions re reflection on capacity gains
3. Practice changes	<ol style="list-style-type: none"> 1. What practice change occurred (targeted and other) where and across what % of the industry in the life of the project? 2. What are the indications for practice change beyond the life of the project – what is needed to assist this? 3. What was the influence of the project in terms of increased reach, faster change or more effective application? 4. What were the barriers and enablers to change – and where are the research gaps? 	<ul style="list-style-type: none"> • Follow-up surveys of participants in activities or receivers of tools and information – questions re: practice change; barriers and enablers; and project influence • Narratives – capturing instances of change as they are observed or reported • Case studies • Secondary sources – such as increases in purchases of equipment or stock
4. Benefits	<ol style="list-style-type: none"> 1. What are the (indicative) benefits arising from the practice change(s) made – production, enterprise management, economic, social and environmental – in terms of appropriate metrics? 2. What are the unintended/unexpected benefits or consequences? 	<ul style="list-style-type: none"> • Follow-up surveys – questions on observed or expected benefits and consequences • Narratives – capturing observed benefits • Case studies – detailed analysis of benefits and consequences • Informed Person interviews or survey – questions on observed benefits or consequences
5. Broader impacts	<ol style="list-style-type: none"> 1. What contribution has this made to the organisation's/industry's Program Objectives and Strategic Priorities? 2. What are the lessons for future investment decisions? 3. What other factors influenced the outcomes of investment (positively and negatively)? 	<ul style="list-style-type: none"> • Collated and calculated broader impact based on evidence and research • Broader industry benchmarking surveys – questions related to gains and influences • Regional, state and national statistics on industry performance in KPI areas.

It is also recommended that the proposal or first milestone includes a requirement to provide a more detailed and costed evaluation plan to ensure that it is in place from the outset and will provide the information needed for project management and reporting.

Data Management

One of the more difficult areas to address is the capacity of the existing data management system within programs and organisations to accept, collate and effectively use the improved evaluation data coming from projects. Traditionally, projects provide their milestone and final reports as PDFs which are then uploaded onto various information management systems. This means that all the work in collecting and reporting data in defined categories and metrics becomes unavailable and difficult to collate – unless it is done by hand. The challenge is to have, modify or introduce information management systems that have the data fields that includes the categories and metrics required from project evaluation – and the capacity to filter and collate this data to create a 'dashboard' graph, statement or figure and to include in reporting up the cascade.

There are systems available which can be used outside of the organisation (for example: <http://www.couttsjr.com.au/yourdata/>), but the ideal is that organisations are able to adapt and use their own data management system for this purpose.

Where to from here

It is still early days in the implementation process of these cascading evaluation approaches and platforms but some progress is already evident. A number of Research Development and Extension agencies and organisations in Australia and New Zealand have developed and accepted (improved) frameworks for monitoring, evaluation and reporting and looked ahead to the appropriate dashboards to provide snapshots of progress against organisational performance indicators. Efforts are being made to adapt information management systems to work better with the evaluation data – but this remains a bottle neck that inhibits the advantage of having better and more consistent information.

An important aspect is the ‘cascade down’ effect – where once organisations are clear about what evaluation information they want from projects and articulate that in contracts and milestone reporting requirements, then projects can allocate budgets, resources, instruments and activities to capture the required data for reporting. In so doing, they are also improving their own management processes and ability to adjust activities as needed to better achieve their objectives. This sometimes requires support in terms of providing training, tools and templates for project teams. This is a process that has started in some industries but will require further proactive effort.

The real test is whether the end result of better data collection, collation and reporting provides what boards, levy payers, governments and other stakeholders need to feel that they fully understand what is being achieved with the investments being made and are better able to make decisions about future investment. For this reason, presenting the ‘final product’ – even if based on assumptions and ‘dummy’ figures to key decision makers is an important step in the early stages of developing the framework. Then, having the end in mind, there is clarity in what needs to be collected and how.

A critical part of this is fully understanding what it is that the organisation – through its projects and programs – can directly influence. Too often, jumps are made between outputs (e.g. numbers of workshops) and broad outcomes (e.g. improvement in industry profitability) – which can be influenced by many other factors outside of organisational activities (weather; government policy; markets; other programs etc). The challenge is to be able to clearly define what it is that the organisation itself can directly influence – and capture this on the dashboard. For example, training in improved farm practices can influence the application of those practices (speed of uptake; reach of uptake; and effectiveness of application) in the farms whose managers and staff undertake the training – so the extent and benefits of certain practice changes can be assessed and attributed as direct influences of a project and hence the organisation.

As these approaches are rolled out through projects and then up through better reporting and dashboards to decision-makers, on-going review should be undertaken to ensure that this is providing what is needed at all levels and adjustments made accordingly. This may change over time and hence the need for it to be dynamic and living process.

Unless extension can better account for itself and demonstrate its investment value, then it will continue to lose funding to other policy intervention measures.

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