

Preparing for Evaluation: Lessons from capacity building for natural resource management

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Abstract

Investment in natural resource management includes projects, increasingly, on building capacity for management within the affected communities. Capacity-based projects may necessarily be open-ended or operating within objectives that are designed to be responsive to changes in the communities across the life of the project.

Being open and responsive brings with it challenges for the management of the project. It also means that the outcomes from the project may be undefined, intangible, or long-term. These are issues commonly associated with strategic natural resource management projects that deal with poorly understood systems and/or multiple interventions in socio-ecological systems and processes. The issue for project managers and funding agencies is the rigour of claims made about particular outcomes.

This paper examines the issues for the evaluation of such projects and what lessons can be learnt from the few major natural resource management project or program evaluations that have been conducted.

Key Words

Natural resource management, evaluation, project management, sustainability outcomes

Introduction

Approaches to natural resource management can take a number of forms: top-down, grass-roots, expert driven, participatory, issues focussed, capacity focussed, and so on. The approach can also be seen as “extension”, that is derived largely from State agency activity and driven by a desire for policy implementation, or program or project-based, that is, derived from a particular funding agency and conducted, for the most part, by consultants. In the latter case, the drivers are reflected in the program objectives.

This range of approaches, foci, and drivers raises challenges for evaluation. What evaluation has been conducted appears, for the most part, to be focussed on agricultural extension rather than on natural resource management (NRM) more broadly. Part of this challenge lies in the nature of NRM, the best of which is attempting to address the need to integrate biophysical, social, and economic aspects of multiple, inter-related issues.

This paper examines some of these issues and challenges and reflects on the implication for evaluation, not only in terms of NRM outcomes, but also of the capacity of the professional community to evaluate. It is anticipated that there is much to be learnt from disciplines more experienced in evaluation of complex issues and intervention strategies, such as health and education. The experience of program evaluation associated with aid projects targeting farming and environment is also highly likely to continue to yield valuable insight for Australian NRM professionals.

NRM context

NRM tends to be focussed on issues: salinity being the issue of the moment in Australia. It has its roots in the extension practices of the State agencies, like the Department of Primary Industries, who traditionally had responsibilities for providing information to farmers with the aim of improving farming practice. With the

changing Departmental jurisdictions and restructuring that followed the rise in concern about environmental issues, the philosophy and practice of agricultural extension became, almost by default, the mechanism for communicating NRM issues (Leach, 2001). In line also with the trend for greater service provision of extension services by the private sector (March and Parnell 1999), it is useful to review briefly the forms of extension and the trends in extension practice.

There are several critical reviews of extension philosophy and practice in Australia (see Black, 2000; March and Parnell 1999; Vanclay 1994; Vanclay and Lawrence, 1992). What becomes clear is that there four major strategies in use, all of which have strengths and limitations. These are (as categorised by Black 2000):

- Linear ‘top-down’ transfer of technology;
- Participatory ‘bottom’ up approaches;
- One-to-one advice or information exchange; and,
- Formal or structured education and training.

Of these, the ‘top down’ is the traditional model where scientists developed solutions which farmers were told about by the extension officers and expected to adopt. This model tended to include the practice of providing one-on-one advice whereby the extension officer was the expert’s proxy when talking with farmers about the solution to particular problems. Theoretically at least, the officer was also supposed to be the conduit by which farmer concerns and priorities were communicated to the research and policy community. However, the communication features of these traditional approaches were not conducive to such “exchange” (Keen and Stockmayer 1999).

Failure in adoption was put down to farmer irrationality and recalcitrance, lack of knowledge, and attitude (Vanclay and Lawrence 1992). As adoption rates were the method by which the success of extension processes was evaluated, the reason for their apparent failure was laid firmly with the farming community. As the understanding of rural sociology grew, it became more widely understood and accepted that social and perceptual issues also affect adoption and the evaluation spotlight turned more onto the efficacy of such traditional ‘top down’ approaches.

Concern over ‘top down’ practices contributed to the development of more participatory approaches (Black 2000). The shift was also consistent with other trends in extension policy and practice (March and Parnell 1999, p83):

- *“emphasis on government providing services in public-good areas;*
- *greater involvement of the private sector in the funding and delivery of agricultural extension;*
- *group-based extension activities directed through nationally-based programs;*
- *emphasis on development of the human resource in agriculture; and a*
- *growing commitment to participatory processes in extension activities.”*

This is reflected to some extent in the “extension spectrum” (Figure 1, from Black 2000), however, it should be noted that movement along the spectrum does not displace the need for communication of technological information; rather that as we deal with increasingly complex situations emphasis should be placed on engagement at multiple levels of involvement and learning.

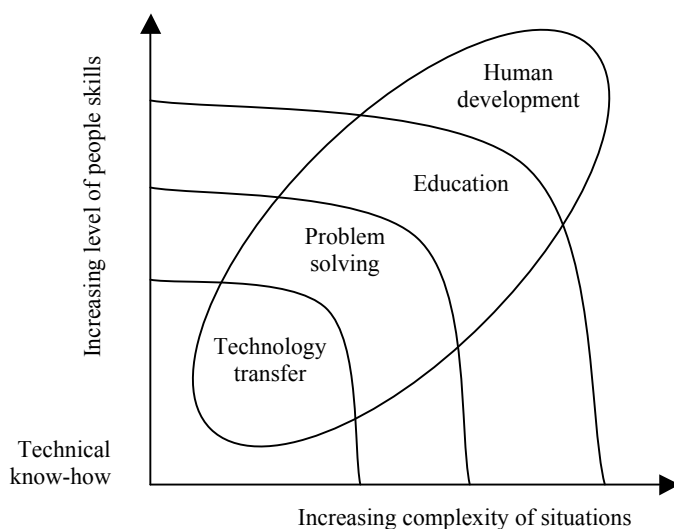


Figure 0: The extension spectrum

There are advantages to more participatory approaches, not the least of which are the opportunities for involvement and active learning, and recognition of local and embedded knowledge and skills. There is also, potentially, the development of a sense of ownership over both issues and their solutions (Bowling *et al* 2002; Black 2000; Carr 1997).

Some of the criticisms or pitfalls of participatory approaches are worth noting here. They include (from Carr 1997, Black 2000):

- the complex and insidious nature of many environmental problems is

likely to be beyond the local knowledge and experience of farmers, even to the point where they are not recognised;

- a 'local community' is made up of people with diverse interests, access to resources, skills, and support networks;
- group participatory approaches tend to ignore or underestimate the potential for and implications of conflict and difference;
- different learning styles and needs may not be catered for;
- technical aspects of the problem are usually the focus at the expense of group development and broader aspects of capacity building;
- information and documentation, when done, is not disseminated more broadly; and,
- lack of resources and support, leading to frustration and 'participation fatigue'.

The result of such issues is likely to be the failure of the programs to achieve their desired outcomes in terms of changing farming practice. The evaluation of extension in Australia was reviewed in 1998 by Dart *et al.* The authors noted the following in summary:

"... the most common approach ... is a summative evaluation, using both qualitative and quantitative data. Evaluations were usually carried out while the program was in a settle stage ... and carried out by external evaluators. The clients ... [farmers] would generally not be involved The general aim would be to provide a report to justify spending and to understand whether the states objectives of the program had been met."

The trend towards participatory approaches to extension was not reflected in participatory or inclusive approaches to evaluation. However, where the goals of a particular program include building capacity, involvement in the ongoing and final evaluation of the program itself is, one, appropriate, and two, consistent with the concept of adaptive management whereby the program delivery and implementation is supported, changed, or enhanced through formative evaluation (Patton in Dart *et al* 1998).

Dart *et al* (1998) also found that there is a dearth of monitoring and evaluation for program management occurring within extension activities in Australia. Where such evaluation occurs, it has usually been associated with overseas aid projects or with individuals who have been involved in such projects and have returned to Australia and attempted to apply this form of evaluation.

One difficulty, however, is that the evaluation methods designed for 'top down' extension are those people, particularly funding bodies, are more likely to be familiar and therefore comfortable with. Yet, these may not be suitable for more participatory approaches. In addition, the context of funding and need for accountability means that increasingly outcomes and strategies have to be built in and clearly defined at the outset Murray (2000). This appears at odds with a rhetoric of participation and engagement. The difficulty lies in the tension between the need for responsiveness and flexibility and for evaluation and accountability. Thus:

"Program ...[without rigidly defined goals at the outset] are difficult to evaluate as they are carried out in variable, unpredictable situations, they produce outputs that are hard to measure objectively and often have permeable boundaries and less-than-direct relationships between inputs and outputs." (Farrington 1997, in Dart *et al* 1998, p11).

Now, to return the trend by State agencies charged with the responsibilities of achieving NRM outcomes. If, as appears to be the case, the approaches taken are largely borrowed from agricultural extension then there are some serious issues to be faced by these agencies. NRM is an area that deals with complex issues that commonly involve multiple biophysical systems (for example, in the case of salinity, inter-relationships between hydrology, geology, biodiversity), dislocation of cause and effect in both time and space, and require often fundamental changes in attitudes *and* behaviours in a social and economic context that lacks financial and cultural resources to do so. In addition, NRM issues are fundamentally about public goods, yet the ethical dimensions of NRM have barely moved out of the philosophical literature or are focussed on valuation models such as the concept of ecosystem services and the payment for these - and even this is in its infancy.

Added to this are the inter-agency and public-private issues and broader discourses about intellectual property and professional liability, among others. With regard to the inter-agency and public-private, the key issues are the lack of coordination and cooperation in information exchange and validation and the fragmentation and development of territories that can occur between research organisations, State and Commonwealth agencies, funding agencies, and the consulting industry (Leach 2001; Black 2000; March & Parnell 1999; Curtis *et al* 1998).

The rhetoric or policy of participatory approaches for NRM becomes caught in these issues, particularly those involving financial and personnel resourcing. One of the things to fall out of the equation, in practical if not policy terms, is evaluation.

Evaluation in NRM

In 1998, Curtis *et al* noted that there had been very little published about evaluations of natural resource management programs in Australia. The situation does not appear to have improved since then, certainly in the referred literature. Policies and strategies adopt the rhetoric of action learning / adaptive management / action research, however, even then the focus appears to be on these processes within the community rather than also including the agencies themselves.

The same appears to be so for the private providers of funds and project work. This includes entities such as the “partner agency” based funding and coordination organisations operating at Commonwealth level and the consulting industry. A project brief might be targeted towards the evaluation of a funding program as a whole or a specific funded project, but rarely do briefs associated with specific NRM issues include statements of objective or outcome that refer to evaluation.

A parallel to this situation is the change in approach to communication of NRM projects. There has been a change from an assumption that if the information was ‘out there’ the people who needed it would find it and use it, with perhaps some ‘assistance’ from the researcher or other expert giving a conference paper - similar to the ‘top down’ model in extension. Now, communication is an explicit component of most project briefs, with communications strategies and products required to target specific stakeholder groups and utilise an appropriate range of tools. NRM projects need to similar transformation to take evaluation from being an added extra to an integral aspect of doing good work.

So, what are the issues? One set relates to the features of NRM programs, especially those with a participatory or capacity building aspect to them. An audit of programs found that (The Australian National Audit Office (1997) as reported in Woodhill and Robins 1998, p9):

- Outcomes can be difficult to measure because of the long lead times involved, however despite this;
- Progress can and should be measured to the maximum extent possible.
- Meaningful, outcome-focussed performance indicators should be used and data collection be adequate to both monitor performance and undertake strategic planning; and
- Program design and implementation should include performance information, clear client focus, and built in monitoring and review mechanisms for measuring both outputs and contribution to overall outcomes.

Other issues include the length some of these programs run for, changes in personnel (both in terms of project management and continuity of inter-agency and/or stakeholder knowledge sharing), insufficient funding, and ineffective communications (Sinclair Knight Merz 2002a,b; Curtis *et al* 1998).

Both monitoring and evaluation are required if there is to be, as recommended by the National Audit, a measurement of performance.

Performance monitoring is the measurement of “progress towards explicit short, intermediate and long-term results” (Kusak and Rist 2001, p16). The progress towards a goal or outcome is measured by using indicators, as achieving a goal cannot be measured directly. For example, if the goal is to improve the health of the rivers in the Murray Darling Basin, then indicators might include: the incidence of algal blooms; the rate of salinisation; the conservation status of particular riparian flora; the degree to which water use efficiencies decrease leakage; and so on.

Monitoring data reveals performance and allows it to be compared against past performance or benchmarks. The data do not provide information about the reasons why a particular level of performance was achieved or why it changed. One danger, however, is that the indicators themselves take on a life of their own and miss the bigger picture (Dart *et al* 1998). The need bigger picture information about the ‘why’ questions requires the coupling of monitoring with evaluation.

An evaluation framework provides more detailed information about performance outcomes, including the reasons for the trends in performance picked up by the monitoring. It can also operate from project level through to program and sector levels and above (Kusak and Rist 2001). The essential issue here is ensuring that information flows between these different levels in ways, at times, and in a form that is useful to the ongoing input into ensuring performance is linked to outcomes.

There have been some attempts at bringing NRM monitoring and evaluation into the realm of the possible (see for example, Woodhill and Robins 1998). At this stage, though, few programs include it. Indeed, at the time of Dart *et al* 1998 review, “no documented evidence was found of comprehensive [monitoring and evaluation] in agricultural extension” (p48). It seems highly likely that the situation is paralleled in NRM.

The evaluation of NRM programs is challenging and this is particularly the case when participatory approaches are used. It is however, a critical element if we are to not only see but also be confident of our successes and feed these into policy development and ongoing program work (Curtis *et al* 1998). It seems apparent that the focus should be on building explicit requirements for monitoring and evaluation into project briefs, in the case of the private sector, or programs, in the case of the public sector, and developing the capacity of professionals and participating stakeholders to engage in these processes.

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