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Author: C. Allan and B. Wilson

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Author Address: CAllan@csu.edu.au bwilson@csu.edu.au

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Dr Catherine Allan
Institute for Land Water and Society
Charles Sturt University
PO Box 789
Albury NSW 2640
Ph: 02 60 519781
Fax: 02 60 519897
Email callan@csu.edu.au
(Corresponding author)

Associate Professor Ben P. Wilson
School of Environmental Sciences
Charles Sturt University
PO Box 789 Albury NSW 2640
ph 02 6051 9675
fax 02 6051 9897

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Key words:

Social learning: participatory learning: adaptive management: soil health

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Abstract

Some form of adaptive management is needed to address complex, uncertain and wicked natural resource management situations. Adaptive management is dependent on learning, in particular social learning. We reflect on some practical constraints on social learning by reference to a recent local scale project in south-eastern Australia. The “Meeting in the Middle” project aimed to facilitate the development and sharing of knowledge about soil health among farmers, advisors and scientists. The project was successful when measured against traditional extension criteria, but the creation and maintenance of an acceptable space for continuous knowledge creation and sharing is proving elusive. This appears to be related to the quite different paradigms within which the various individual and institutional players operate. Understanding how to recognise, manage and ultimately benefit from the juxtaposition of different world views is challenging but necessary for adaptive management, so we conclude with some reflections on this challenge.

Introduction

Natural resource/ environmental management issues are increasingly described as complex, uncertain and wicked (for example Freeman, 2000; Lachappelle *et al.*, 2003; Australian Public Service Commission, 2007 among many). In their seminal (1973) paper Ritter and Webber used ‘wicked’ to distinguish problems which are not only complex, but which are tricky to define and manage because efforts to solve them create new, unexpected and possibly worse, situations. Involvement of multiple players from many disciplines, and possessing many forms of knowledge, is required to cope with this combination of complexity and uncertainty (Ludwig, 2001). Conventional, reductionist management approaches appear unable to provide the holistic, timely information needed to respond to rapidly changing physical and social conditions. There is, therefore, a growing interest in alternatives, including adaptive management. In its simplest sense, adaptive management is learning from policies and management implementation in order to improve future management and policies (see, for example Holling, 1978; Walters, 1986; Lee, 1993; Gunderson, 1999). Key areas of difference between conventional and adaptive management is the latter’s emphasis on learning, and on being sensitive to context (Allan and Stankey, 2009). Understanding context is helped by broad based participation in project development, implementation and learning. Effective adaptive management is therefore frequently entwined with some form of social learning.

Social learning is a broad term that has been variously used to describe the shared enquiry involved in co-management of natural assets (Schusler *et al.*, 2003), a process by which groups learn from each other to enhance socio-ecological outcomes (Stringer *et al.*, 2006), the learning of a social entity as a whole through context specific multiparty collaboration (Pahl-Wostl *et al.*, 2007) and the achievement of concerted action in complex and uncertain times (Ison and Watson, 2007). The core of all of these descriptions is collaborative participation in activities that lead to learning and practice change.

Although social learning is frequently discussed it is not always clear how its theory translates to on ground practice. Here we contribute a tile to the mosaic of understanding of social learning by reflecting on the recent use of participatory/collaborative learning in a soil

health project in south-eastern New South Wales NSW, Australia. We provide a summary of the project and our evaluation of it, and then consider how the lessons from the project might inform the task of supporting effective natural resource management for a potentially warming and increasingly ‘wicked’ world.

The project

The project is physically located in the Upper Billabong Creek area, part of the Murray Catchment in the south east corner of NSW, Australia (Figure 1). This area has been dominated by agriculture since European settlement in the 1830s, with grazing enterprises in the wetter upland areas, grading through to predominantly cropping enterprises on the western plains. Whatever the enterprise, soil is fundamental, and soil management is the disciplinary focus of the project. Current Australian public discourse on soil and its management is often framed in terms of ‘soil health’, as exemplified by the 2006 State of the Environment report (Beeton *et al.*, 2006). The soil health story is complex, but includes acknowledgement that increased agricultural production has come at a high cost to soil resilience and the ecosystem services soil provides (Doran, 2002). This acknowledgment, combined with increasing costs of farm inputs, and burgeoning interest in the carbon storage capacity of soil to help balance carbon dioxide emissions, has prompted State and Federal governments to fund various ‘soil health’ projects, such as Land & Water Australia’s (L&WA) ‘Healthy Soils for Sustainable Farms Programme’ (Department of Agriculture Fisheries and Forestry Australia, 2006). L&WA, recently abolished, was a Rural Research and Development Corporation established by the Australian Government to provide farmers with “the best available science and technology to manage our soil, water and vegetation” (Land & Water Australia, 2009).

[insert Figure 1 about here]

Concurrent with the development of the ‘Healthy Soils for Sustainable Farms Programme’ Landholder Advisory Groups across the Murray Catchment were indicating the need for a comprehensive approach to “soil health” testing, monitoring, adoption, management and research to the Murray Catchment Management Authority (MCMA), a regionally based statutory body that reports to the NSW state government. The need for soil information was confirmed with research by Kelly *et al* (2009) that documented some farmer dissatisfaction with the mainstream focus on traditional and conventional soil management practice. That research also showed that farmers were aware that their access to scientifically rigorous information was limited. These farmers expressed dissatisfaction with the soil management information they could find as they felt it was not helping them achieve their changing life objectives, which in turn are influenced by climate change, global markets and changing demographics (Kelly *et al.*, 2009).

As part of the Healthy Soils for Sustainable Farms Programme, L&WA hosted a workshop to investigate innovative methods for soil health programmes nationally, drawing on lessons from the successful Master Tree Growers program, a participatory outreach and extension project on agroforestry and farm forestry for farmers and regional advisers, described in Reid (2008). The MCMA and the authors, along with many other stakeholders from natural resource management agencies, universities and landholder groups, were invited to participate in this programme development. The result was a novel soil health programme, based on participatory learning, titled “Kicking the Dirt on Healthy Soils”. However, this

framework 'was then taken to the [L&WA] programme managers and it did not work - that concept was shelved' (S. Pearson pers. comm. 21/6/2007). The reasons for rejection are unclear; however a more traditional information transfer model was implemented, starting with a call for projects to deliver soil health programmes (for the outcomes of this initiative see Viljoen *et al.*, 2008).

The Land & Water Australia call for project applications prompted the MCMA, with support from the authors of this paper, to develop a project to address landholder needs with respect to soil health information. An application based on the structure of the Master Tree Growers programme, and stressing collaborative learning, was developed with the title "Soil health management tools for producers, catchment managers and researchers". However this proposed project was also rejected. Official feedback on the rejection stressed the large number of applications received in the highly competitive programme, and did not specifically refer to the proposed project design. The MCMA continued to build on this project idea to address the needs identified previously by farmers within the catchment, and they developed a healthy soils project with a working title of 'Healthier Soils in the NSW Murray Catchment through an innovative Communication approach'. This project provided the opportunity to trial 'a collaborative learning method connecting landholders, extension and research officers'. As well as referring to the Master Treegrowers Program the project drew on lessons from Participatory Action Research (PAR) as described by Greenwood *et al.* (1993) and Kemmis and McTaggart (2000). The innovative communication approach was thus centred on the participation of landholders in designing and facilitating opportunities to learn, to share knowledge and change practices.

The 'Healthier Soils' project was submitted in response to a call for applications from the Australian Government's National Landcare Program (NLP). Completing the project funding application required some subtle writing in order to balance the vision of participatory involvement in project design with the requirement for predefined, measurable milestones and targets. As the project involved collaborative learning as a major objective, it was difficult to define measurable outcomes against which justification for funding could be claimed. Some targets related to presenting learning activities and trials were included, and the wording was kept as general as possible to allow for later flexibility. The MCMA was successful in this application for funding from the NLP. When the project began in late 2006 it quickly assumed the permanent title of Meeting in the Middle. We summarise Meeting in the Middle in the following section. Readers seeking more detail than provided here are directed to Allan and Wilson (2008).

Meeting in the Middle

The following summary of the Meeting in the Middle project is based on the evaluation of the project undertaken by the authors. Our role as participant evaluators needs a little explanation here. At the invitation of staff from the Murray CMA we assisted with the shaping and wording of the project proposal which was rejected by the L&WA and the project that eventually became Meeting in the Middle. Throughout the development discussions the focus was on breaking with tradition to create a project that enabled landholders and other potential participants to have some control over the direction of the project and the types and forms of the information provided, with the intent that this would encourage social learning about soils in the district. The phrase used in the project development to express this was PAR. This stems from the enthusiasm for PAR by the MCMA staff, and because of the past experience of one of the authors. PAR was considered

to be a suitable process for addressing the dissatisfaction that framers had expressed with existing 'science' information and their limited access to it.

The importance of reflection and evaluation was highlighted in the project development discussions. Evaluation and reflection within the landholder group was predicted to be the key learning process, leading to further actions and reflections as per PAR theory. Summative evaluation of the process and achievements of the project was also considered necessary for project reporting, informing reflective practice, and for sharing the lessons from this project with others.

As part of the project we were contracted by the MCMA to provide both support with the PAR process, and with an evaluation of project in the form of a written report. Implementation of the project was, however, somewhat different to the plan and, as will be discussed in detail later, the Action Research component of the project was effectively replaced with a guided extension project, with less formative evaluation. Our evaluation necessarily changed to having a greater summative focus.

Blackstock *et al.* (2007) highlight the importance of bounding the purpose and focus of an evaluation. The project grew from a desire to try an inclusive, participatory approach to learning that could be used in future projects in the area, so we focused our evaluation on the project's explicit and implicit logic (theory). We articulated the underlying logic of Meeting in the Middle after discussions with the MCMA project leaders and after the first few project activities. Putting the logic into words enables causal assumptions embedded in the project to be examined and understood (Shadish *et al.*, 1991). A programme logic approach also allows assessments of separate components of the project.

The project had many novel aspects for the district, lead organisation and potential participants, necessitating a deep understanding of its operations. Qualitative, ethnographic data creation methods were selected to evaluate the different project components. Being involved in the project while evaluating it provided both opportunities and dangers. Our team membership allowed us to experience the development in a way not possible in conventional external evaluations. However, our close involvement could potentially compromise the objectivity of the evaluation. We managed this to some extent by following rigorous research procedures. Data were created by participant observation (Spradley, 1980) of Meeting in the Middle activities, informal discussions/planning sessions with project staff, and, towards the end of the project, in-depth interviews (Wengraf, 2001) with key project participants. We used thematic content analysis, as described by Lieblich *et al.* (1998) to categorise words and phrases from the observation notes, transcripts of interviews and project documents into categories and organised these in accordance with the articulated programme logic. Despite these measures our evaluation retains some degree of subjectivity- rather than hide or deny this we take advantage of the special insight that 'being there' provides, and invite readers to understand the limitations and benefits of our approach. In particular the discussion section of this paper draws heavily on our shared reflection of our experience, as well as on the published evaluation report.

How the project unfolded

As noted above, Meeting in the Middle was an organisational response to needs identified by a community of land managers. Buoyed by the apparent encouragement of participatory approaches by government agencies such as L&WA and the Department of Agriculture, Forestry and Fisheries, the MCMA response differed from its norm in that it sought to

facilitate actively some form of social learning. We identified the logic of that social learning project as being:

- Developing an agreed approach
- Developing the capacities of the participatory learning group itself
- Organising learning and information sharing activities
- Creating opportunities for co-research/ co-inquiry
- On-going evaluation and reflection, and
- Sharing the lessons with other projects.

Our identified program logic was consistent with the contract between the MCMA and the NLP funders, but highlighted project process rather than activity milestones and targets.

Meeting in the Middle was funded for less than two years, with the longer term based only on hope. A key activity for the project was a community meeting/workshop, organised by the MCMA to both provide information to farmers and others in the project district and, most importantly, to seek direction about project activities for the first 18 months. The workshop was held during the day in the small town of Holbrook, at the physical and social centre of the project's district. The workshop was open to anyone, with information fliers distributed widely throughout the district, and invitations issued to relevant government agencies, businesses and consultancies. The well attended meeting included facilitated workshops that yielded a list of key needs to guide the further development of the project. This list (Figure 2) was compiled and distributed to all meeting participants by MCMA project staff.

[insert Figure 2 about here]

The workshop also enabled the MCMA to identify a group of people interested in having close involvement with the project. Interested people included those who were farmers in the district, a representative from a state agricultural agency, a private agronomist, MCMA project staff and the authors of this paper. This group met soon after the community workshop and, as members of that group, we presented what we saw as the opportunities and responsibilities of PAR. With comparatively little further discussion the group decided to call themselves a Steering Committee.. Terms of Reference were developed from that initial Steering Committee meeting and tabled at its next. The terms defined its purpose as to 'guide the Meeting in the Middle Soil Health Program in the South West Slopes by providing advice to the Murray Catchment Management Authority on:

- prioritisation of actions proposed
- recommend and participate in activities related to the project
- issues landholders and stakeholders are concerned with to ensure that the program is both relevant and sound
- matters that will lead to industry improvement for landholders and stakeholders'.

The project funding application and contract between MCMA and the NLP were not formally tabled at any meetings because the MCMA considered the documents to be "commercial in confidence", but the Steering Committee was informed of the contents and general requirements.

Members of the Steering Committee noted early on that there was 'no way of delivering all that came out' of the community workshop in the limited life of the project, so the items presented in Figure 2 were informally prioritised by the Steering Committee, apparently based on interest and pragmatics, although these criteria were not openly articulated. Driven by member interest, and the need to meet the MCMA's formal project milestone of a

predetermined number of information exchange sessions, the early focus of Meeting in the Middle was on organising soil health events. These aimed to bring farmers and technical experts together to enable information to be shared, in formats accessible to farmers. A particular focus of the Steering Committee was on facilitating activities with non mainstream speakers and practitioners of soil health. Presentations from these people were seen to address the need to learn more about soil biology, biological farming, soil carbon and sustainability, as well as fitting in with the soil health goals of the MCMA's Catchment Action Plan, the strategic planning document for the district. The learning activities included seminars, field sessions and a 'hands-on' soil biology workshop. Invited speakers came from outside the district, and included soil microbiologists from universities and government agencies, as well as innovative (and controversial) pasture cropping farmers and advisors. The bulk of the practical organisation, promotion and management of these events was undertaken by MCMA staff, with support from Steering Committee members and event hosts. The impact of the information sharing events was increased by the production and dissemination of quality DVDs so that participants could reflect (in private) on the information, after the event. The subject matter of the events was guided by the needs articulated at the first community meeting, but the events themselves were fairly typical extension activities. The soil biology workshop was interactive, but the other events involved expert speakers providing information with a largely passive audience. Paper based evaluations undertaken by the MCMA after these sessions show that most participants found these to be well run, informative events, from which people learned more about soil and its management.

The other action undertaken by the Steering Committee related to co-inquiry, but action in this area was slower. There was some variance in opinion in the group about whether the field component of the project could or should be 'trials' (i.e. about learning something new) or 'demonstrations' (i.e. about showing something already known). This may have been because the terms are linguistically ambiguous, or may reflect deeper differences in understanding participant roles in collaborative enquiry. The need to meet the targets written into the original funding application led, in late 2007, to the establishment of two field sites. One applied different soil health products on a cropping paddock, and the other established different grazing regimes on a hill country site. A variety of soil parameters were measured to provide baseline data against which to measure treatment impacts. The trials/demonstrations were designed by the Steering Committee, with assistance from a variety of experts from within the MCMA and other organisations.

Another activity selected from the list presented in Figure 2 was that of enabling easier access to current scientific knowledge. This was addressed to some extent by the MCMA contracting us to review the current expert understandings of soil health (Wilson) and participatory processes (Allan), presented in an accessible format. A soil health literature review was provided to the Steering Committee mid way through the project, and a participatory process literature review was appended to the final evaluation report.

While these various activities occurred, the Steering Committee continued to meet (ten times between November 2006 and July 2008) to provide direction to the MCMA on the project, and to develop their role as a project team. In the interests of facilitating participation the MCMA project staff deliberately refrained from 'leading' the Steering Committee meetings. This enabled members to present ideas and thoughts in what was described later by one member as 'talk fests', leading some members to become frustrated by the proportion of talk to action, and by the apparent lack of direction of the project. Decisions were made sometimes at meetings, sometimes during out of session conversations, but mostly by

MCMA staff with advice and assistance from individual Steering Committee members. Without being clear on the wording or the budget of the underlying project contract members had limited capacity to influence the project other than through their visions and advisory relationship. Despite these constraints and increasingly articulated frustrations, the Steering Committee began to develop a coherent, shared direction, with this coherence growing stronger towards the end of the funded two years. The MCMA, with input from some members of the Steering Committee, developed a new project which widened the scope of activity to move beyond healthy soils to healthy farming and produce, but this was unsuccessful at obtaining funds in a very competitive process. The Meeting in the Middle project in the Billabong ceased to operate in 2008, finishing with a community scale field day on the site of the cropping trial/demonstration.

The field sites established as part of the project continue to be maintained by the Steering Committee members on whose properties they are situated, and monitoring of soil health parameters has become part of the wider MCMA soil health strategic implementation. Members of the Steering Committee are still active, as individuals, in other local groups such as the newly reinvigorated Holbrook Landcare group, but they no longer gather as the Meeting in the Middle Steering Committee. Indeed, the Meeting in the Middle name or 'brand' has been claimed by the MCMA, as they wish to invest in new collaborative learning projects in their area, and to use that name with them.

Evaluating Meeting in the Middle

We explained our roles of project advisors/ evaluators at both the initial community workshop and the first steering committee meeting. Following the ethical principles of Charles Sturt University we gained consent from the participants after informing them of our methods for creating qualitative data. We openly took notes during the meetings, and tried to discuss the project processes at relevant places during the meetings. Mid way through the project we produced a brief report on the project for the Steering Committee noting that the project had developed into a collaborative exercise, rather than a participatory one. The draft report was reviewed by the MCMA but not passed on to the Steering Committee because it was considered to be over critical, incorrect in considering the project as collaborative rather than participatory, and the qualitative data presented was viewed as evaluator opinion rather than 'data'.

The draft final evaluation we prepared for the Steering Committee and the MCMA at the end of the project in mid 2008 was also poorly received. This was partly for the same reasons as were given with the midterm report, but also because we focused on the processes of participation/ collaboration, and the MCMA were expecting the evaluation to be different. After discussion with the MCMA we expanded the evaluation report, putting greater emphasis on the extension events and other project outputs and outcomes. We noted the success of the MCMA's approach of listening to community needs and responding to them in ways which are guided and endorsed by local mentors. However, we retained the evaluation of the process, in which we suggested that the Meeting in the Middle project was only partially able to meet the four process criteria developed by Grant and Curtis (2004). Based on empirical research Grant and Curtis propose four outcome criteria for evaluating community participation in natural resource management planning and implementation; that the process includes representation from affected interests, provides opportunity and capacity for influence, promotes constructive interaction and meets agreed standards of decision making. Guided by these criteria we were somewhat uneasy about the representativeness of

the self selected Steering Committee, but our major concerns were with constraints on the participation of Steering Committee members in project governance, and with the occasionally poor transparency in the decision making process.

We concluded our evaluation report by suggesting that the Meeting in the Middle project had responded to an identified need for community involvement in soil management and soil 'health' with an innovative, collaborative project that set a good foundation for further work. This is a good outcome from a soil health extension perspective, but a poorer outcome in relation to developing sound social learning practices to support the adaptive management needed to respond effectively to climate change. We do not make these comments as accusations, unless they are against ourselves for failing to adequately explain and enable a participatory and reflective approach. The MCMA deserves praise for responding to community need in a collaborative way, and in doing so providing relevant and accessible soil health information to the Billabong Catchment area. We do, however, note that even with the best intentions a number of factors constrained the potential for social learning, in particular the short time frame and governance requirements of NLP projects, and the requirement on the MCMA staff to meet their organisation's (and ultimately the Government's) strategic planning objectives. In the following section we reflect on the lessons from Meeting in the Middle in the broader context of social learning and adaptive management in an uncertain but warming world.

Lessons from this case study for social learning and the adaptive management needed for responding effectively to climate change

Firstly, reflection on this project reminds us that personal and social paradigms, which in turn influence expectations and the ways in which information is understood, are enormously influential. Social learning, with its participatory and action foci, is a product of a particular way of seeing the world, one that is different from that still current in mainstream agricultural and rural extension in Australia. Despite the rhetoric of a participatory turn in agricultural extension in the late 20th century, agency extension practitioners continue to favour approaches aligned with the 'transfer of technology' paradigm. Proof of this is the 'evaluations' required by funding bodies, which are often really adoption audits (Murray, 2000). Social learning is based on power sharing and joint journeys of discovery, and is a product of another paradigm, one that overtly challenges traditional extension (Ison and Russell, 2000). The paradigm clash that necessarily occurs when participatory approaches are introduced into traditional practice has manifold impacts on projects such as the one we described in this paper.

An obvious impact (with hindsight's 20:20 vision) is that project participants' expectations are not homogenous. For instance, Meeting in the Middle project participants had varied expectations of the processes and outcomes of participation. Although somewhat limited (see for example Collins and Ison, 2006), Arnstein's (1969) famous ladder of citizen participation provides a useful descriptive metaphor in this case. Arnstein's ladder presents a hierarchy of power relations which move upwards from non participation, through tokenism to citizen control, with eight major rungs identified on the way. MCMA staff, constrained by their institutional norms and a funding contract, appeared to expect to operate in the ladder's rung range between *informing* and *partnership*. They were willing, indeed eager, to be guided on the subject matter and format of activities, as long as those activities conformed to the needs of the project contract and broader strategic planning. Steering Committee members, primarily focused on on-ground outcomes, appeared to welcome being *informed* and

consulted. The authors, academics less tethered to institutional outcomes (perhaps less tethered to the world's realities?), and excited by previous experiences with PAR, anticipated that the project would aim for *partnership* and *delegated power*.

The role and form of project evaluation provides another useful area for reflection on expectations in this project. The MCMA broke from normal practice in the district by building evaluation into the project proposal, and by ensuring it occurred with a budget allocation. This approach was justified as Meeting in the Middle was seen as an innovative way to facilitate information exchange and learning. However, despite developing the project together, and despite formalising expectations in a contract, the MCMA staff and the authors had different expectations of what evaluation involves, and what it can be used for. Our differing operational paradigms led to different interpretations of words such as 'participation' and 'data', but especially evaluation. Based on previous experience, we expected evaluation to be primarily a formative activity, deeply embedded in the project itself. To borrow the language of Ison and Watson (2007) we thought we were entering a project as insiders within a situation, and we would jointly reflect on environmental management with others who wish to gain a deeper understanding of the situation. Through the dynamics of the actual project (influenced by individual's personalities, institutional requirements and local norms) we rapidly changed to being observers with an interest in understanding the factors at play. Thus, even when it became clear to us early in the project implementation that the project would involve collaborative extension rather than PAR, we continued to think of evaluation in terms of understanding the process, rather than on measuring outcomes. The MCMA staff, however, had expectations of the evaluation which we did not meet with our focus on process. From necessity and, we postulate, habit, the MCMA staff needed to account for their expenditure in terms of milestones and targets, and the implicit estimations of adoption that milestones and targets contained. The use of qualitative data does not fit well into the traditional paradigm in which the MCMA staff members appear to be operating.

The varied expectations among participants were not a problem in themselves, but failure to articulate these various expectations early in the project, and to facilitate active and shared reflection on paradigms, caused some talking at cross purposes, increasing frustration and reduced trust as the project proceeded.

We suggest that publicly articulating expectations was hampered partly by Meeting in the Middle being just one of many land management projects that the participants (both landholders and the MCMA staff) had been involved with over the past few decades. Roles and behaviours, such as formal 'steering' meeting protocols, project governance arrangements, anticipated outcomes and the measurement of them, were assumed to be similar to those in previous projects. Also, Steering Committee members were enthusiastic about the soil health story, and the possibilities of contributing their knowledge and values to their farming community. Busy people, voluntarily undertaking to assist the MCMA in helping to increase soil health knowledge and understanding in their area, they had little time to spare for discussions about process and governance, especially as past projects had left governance and process issues to the government agency with the funds. We also suspect that all Steering Committee Members were too polite and well mannered to publicly challenge or question the world view espoused by another member, even one from a university. The MCMA staffs' disinclination to table our midterm report provides one concrete example of keeping criticism, and even conflict, out of the public face of the project. Poncelet (2001) noted the active avoidance of conflict by acts of social politeness in a multi-stakeholder

environmental partnership, and suggests that this involved a retreat from rigorous debate. We suggest that in the early stages of Meeting in the Middle Steering Committee members were focused on maintaining the group, even if this meant a similar retreat from rigorous debate. There were signs of this changing as the project progressed, but the funding ceased soon after this.

Different operational paradigms were apparent in the wider funding context as well. While rhetorically supporting participatory approaches the funding application saga for this project suggests that government agencies are unwilling to make the structural changes to project requirements needed to support participatory practice. Insufficient support of cases such as the one presented here manifests in short term projects that have little chance of continuing, as well as fierce retention of project auditing tools such as targets and milestones while providing little opportunity for evaluation lessons to be included in reporting processes.

The above reflection on the Meeting in the Middle project produces the not very novel suggestion that projects that attempt to diverge from the norm face a variety of institutional and cultural factors that gradually cut and nudge the project into behaving in a traditional way, despite the grand visions that initiate the project. Figure 3 is an attempt to show this gradual nipping and training in a generalised way. In the case presented in this paper early ideas about participatory learning, joint evaluation of information and embedded knowledge quickly gave way to a more traditional approach of information dissemination, albeit dissemination from innovative sources. The needs of the funding and management organisations delivered the first blows to this potentially innovative, open project. The targets, milestones and reporting practices necessary for institutional maintenance necessitated that administrative and directional powers were vested in the MCMA, reducing the opportunities for genuine power delegation or sharing. Cultural norms and expectations both enabled the institutional constraints to trim the project, and added extra cuts as people behaved in culturally sanctioned and habitual ways. There were indications that some of the culturally determined constraints were being loosened towards the end of the project. The final cut shown in the figure, the pragmatics of working within a short term project, ensured that this was not to be.

[Insert figure 3 about here]

The highlighting of institutional constraints on social learning has occurred regularly in the literature (for example Chataway, 1997; Kapoor, 2001; Jacobson *et al.*, 2006). We add to this discussion with some concern that, looking through the traditional paradigm lens, the more participatory aspects of Meeting in the Middle, especially group reflection on information and local action research, were not as outwardly 'successful' as the conventional extension activities. The aspects of the project which aimed at increased participation in project governance led to some frustration, and at times uncertainty about purpose, and these aspects did not have the chance to develop before the project funding ceased.

Perhaps trying to introduce participatory process into a constraining, unsupportive institutional environment is doing more harm than good? Should the efforts of practitioners trying to increase the adaptive capacity of land managers be focused only at the institutional (organisational and cultural norm) level until conditions promote rather than constrain social learning? For our part we say 'no'. We propose that efforts at participatory learning do need to continue at the project level, despite institutional inertia, as incremental benefits (such as creating an inclusive and relevant extension process via Meeting in the Middle) will accrue.

And some projects have better social learning outcomes than others; (Measham, 2009) discusses a project run concurrently with Meeting in the Middle, and with similar initial goals, and this one apparently did result in participatory learning. According to Measham this was because the project was commissioned by those who wanted to learn, and because they kept the project flexible enough to allow for iterative learning activities. These factors would also be claimed by the Meeting in the Middle project, suggesting that local details and personalities may play an important role in how a project proceeds and succeeds, and/or that the slightly longer time frame of the project allowed differences in ideas and paradigms to be articulated and negotiated.

Participatory projects, and social learning, should continue to be developed and implemented where the approach is needed and suited. However, project enthusiasts and designers must reflect on the constraints imposed by institutions, and by their own and others' operational paradigms. Further, these reflections should be part of ongoing project management conversations. In particular expectations must be clearly articulated and frequently revisited in open conversations. Good facilitation of the project processes is a key to enabling this to happen. Our key recommendation for Meeting in the Middle and similar projects was to employ a facilitator to encourage and enable these sorts of conversations to occur, and to reduce the potential for role conflation and mis-communication.

A final constraint that should be discussed in every project is that of the likely project reach. Small participatory projects such the one discussed in this paper need to occur within a network of changing educational practice and institutional leadership if they are to make more than small changes in the way the world is viewed, and the ways in which resources are managed.

Conclusions

The paradigm clash that we have emphasised in our discussion is more than just musings on the difficulties of trying to run participatory projects. We think the lessons from this project are actually much further reaching. With the recent focus on global warming there is much public and government discussion about adaptation, in particular adapting our responses to the increasingly acknowledged uncertainty and complexity inherent in managing natural resources. Just what this means in practice is less clear. To date the Australian government response to climate change has been to try to develop skills to do things a little differently within the mainstream scientific management paradigm. According to government websites this includes, for example, developing 'climate ready' cereals, relocation of intensive cropping from southern to northern Australia, and reducing the impact of heat stress on livestock productivity. Similarly, our experience with Meeting in the Middle suggests a default form of adaptation in the field may be that of doing things somewhat differently within existing paradigms, rather than trying to adapt in the sense of thinking about knowledge and understanding in novel and different ways. While people may set out with intentions to learn and share that learning differently – to be social and adaptive - the various pressures to do things the usual way, to revert to the conventional paradigm, are many, and strong. Staying within the conventional paradigm encourages fiddling with practices and tools, for example, swapping worm castes for superphosphate in broadscale cropping.

We noted in our introduction that natural resource/ environmental management issues are 'wicked'; this suggests that the issues are difficult to define, and that trying to manage them may create new, unexpected and possibly worse, situations. Wicked problems also present evidence that can be judged in contradictory ways by different stakeholders. Thinking within

the conventional reductionist, scientific management paradigm severely limits options for tackling wicked problems, because the conventional approach assumes that problems can be defined, and that responses to management can be predicted and measured. Adaptive approaches, with dynamic ways of defining and understanding the world, are put forward as being better suited to managing in a wicked world. There is however, as the editors of this special edition suggest in more eloquent terms, adaptation and adaptation. The form of adaptation encountered in Meeting in the Middle, adaptation within the conventional paradigm, will only enable people to do the same things a little differently, and leave them trying to apply simple solutions to wicked problems. This default form of adaptation did not encourage or empower people to reconsider or redefine the issues facing them. Nor did it even encourage people to consider their current and potential roles in defining issues, creating information and developing ways to interact with these issues. The question is; will such incremental shifts in learning and practice be enough to support us if and when the world warms up?

References

- Allan C, Stankey G. 2009. Synthesis of lessons. In *Adaptive Environmental Management: A practitioner's guide*, Allan C, Stankey G (eds). Springer, Dordrecht, pp 367-373.
- Allan C, Wilson B. 2008. Meeting in the Middle: An evaluation of a novel approach to sharing information on soil health in the Murray Catchment. Institute for Land, Water and Society Report No. 42. Charles Sturt University: Albury NSW.
- Arnstein SR. 1969. A Ladder of Citizen Participation. *Journal of the American Institute of Planners* **35**(4): 216-224.
- Australian Public Service Commission. 2007. *Tackling wicked problems: A public policy perspective*. Commonwealth of Australia: Canberra.
- Beeton RJS, Buckley KI, Jones GJ, Morgan D, Reichelt RE, Trewin D 2006. *Australia State of the Environment 2006*. 2006 Australian State of the Environment Committee: Canberra.
- Blackstock KL, Kelly GJ, Horsey BL. 2007. Developing and applying a framework to evaluate participatory research for sustainability. *Ecological Economics* **60**(4): 726-742.
- Chataway CJ. 1997. An Examination of the Constraints on Mutual Inquiry in a Participatory Action Research Project. *Journal of Social Issues* **53**(4): 747-765.
- Collins K, Ison R. 2006. Dare we Jump off Arnstein's Ladder? Social Learning as a new Policy Paradigm. PATH (Participatory Approaches in Science and Technology): Edinburgh, Scotland.
- Department of Agriculture Fisheries and Forestry Australia. 2006. Healthy soils for sustainable farms programme. Department of Agriculture Fisheries and Forestry Australia: Canberra.
- Doran JW. 2002. Soil Health and global sustainability: Translating science into practice. *Agriculture, Ecosystems & Environment* **88**(2): 119-127.
- Freeman DM. 2000. Wicked Water Problems: Sociology and Local Water Organizations in Addressing Water Resources Policy. *Journal of the American Water Resources Association* **36**(3): 483-491.
- Grant A, Curtis, A. 2004. Refining Evaluation Criteria for Public Participation Using Stakeholder Perspectives of Process and Outcomes. *Rural Society*, **14**(2): 142-162.
- Greenwood DJ, Whyte WF, Harkavy I. 1993. Participatory Action Research as a Process and as a Goal. *Human Relations* **46**(2): 175-192.

- Gunderson L. 1999. Resilience, flexibility and adaptive management - antidotes for spurious certitude? *Conservation Ecology* **3**(1). <http://www.consecol.org/vol3/iss1/art7> [31 August 2009].
- Holling CS. 1978. Adaptive environmental management and assessment. Wiley: Chichester.
- Ison R, Russell D. 2000. *Agricultural Extension and Rural Development; breaking out of traditions*. Cambridge University Press: Cambridge.
- Ison R, Watson D. 2007. Illuminating the Possibilities for Social Learning in the Management of Scotland's Water. *Ecology & Society* **12**(1): 1-21.
- Jacobson SK, Morris JK, Sanders JS, Wiley EN, Brooks M, Bennetts RE, Percival HF, Marynowski S. 2006. Understanding barriers to implementation of an adaptive land management program. *Conservation Biology* **20**(5): 1516-1527.
- Kapoor I. 2001 Towards Participatory Environmental Management? *Journal of Environmental Management* **63**: 269-279.
- Kelly B, Allan C, Wilson BP. 2009. Soil Indicators and their use by farmers in the Billabong Catchment, southern New South Wales. *Australian Journal of Soil Research* **47**: 234-242.
- Kemmis S, McTaggart R. 2000. Participatory Action Research. In *Handbook of qualitative research*, Denzin NK, Lincoln, YS (eds). Sage Publications Inc: Thousand Oaks, pp567-605.
- Lachappelle PR, McCool SF, Patterson ME. 2003. Barriers to Effective Natural Resource Planning in a "Messy" World. *Society & Natural Resources* **16**(6): 473.
- Land & Water Australia. 2009. Land and Water Australia's contribution to Australia. <http://lwa.gov.au/news/2009/may/12/land-water-australia-s-contribution-australia> [13 June 2009].
- Lee KN. 1993. Compass and gyroscope: integrating science and politics for the environment. Island Press: Washington DC.
- Lieblich A, Tuval-Mashiach R, Zilber T. 1998. *Narrative Research: Reading, Analysis, and Interpretation*. Sage: Thousand Oaks.
- Ludwig D. 2001. The Era of Management Is Over. *Ecosystems*, **4**(8), 758-764.
- Measham TG. 2009. Social Learning Through Evaluation: A Case Study of Overcoming Constraints for Management of Dryland Salinity. *Environmental Management*, **43**, 1096-1107.
- Murray P. 2000. Evaluating participatory extension programs: challenges and problems. *Australian Journal of Experimental Agriculture* **40**(4): 519-526.
- Pahl-Wostl C, Craps M, Dewulf A, Mostert E, Tàbara D, Taillieu T. 2007. Social learning and water resources management. *Ecology and Society* **12**(2). <http://www.ecologyandsociety.org/vol12/iss2/art5/> [31 August 2009].
- Poncelet EC. 2001. "A Kiss here and a Kiss there": Conflict and Collaboration in Environmental Partnerships. *Environmental Management* **27**(1): 13-25.
- Rittel HWJ, Webber MM. 1973. Dilemmas in a General Theory of Planning. *Policy Sciences*, **4**:155-169.
- Reid, R 2008. The Australian Master TreeGrower Program. University of Melbourne. <http://www.mtg.unimelb.edu.au/> [17 August 2009].
- Schusler TM, Decker DJ, Pfeffer MJ. 2003. Social Learning for Collaborative Natural Resource Management. *Society & Natural Resources* **16**(4): 309-326.
- Shadish WR, Cook TD, Leviton LC. 1991. Foundations of Program Evaluation. Sage Publications: Newbury Park.
- Spradley JP. 1980. Participant observation. Holt, Rinehart and Winston: New York.

- Stringer LC, Dougill AJ, Fraser E, Hubacek K, Prell C, Reed MS. 2006. Unpacking "Participation" in the Adaptive Management of Social-ecological Systems: a Critical Review. *Ecology & Society* **11**(2): 719-740.
- Viljoen C, Price P, Lovett S, O'Conner L. 2008. Healthy Soils for Sustainable Farms Program Report. Land & Water Australia: Canberra.
- Walters C. 1986. Adaptive management of renewable resources. Macmillan: New York.
- Wengraf T. 2001. Qualitative research interviewing. Sage Publications: London.

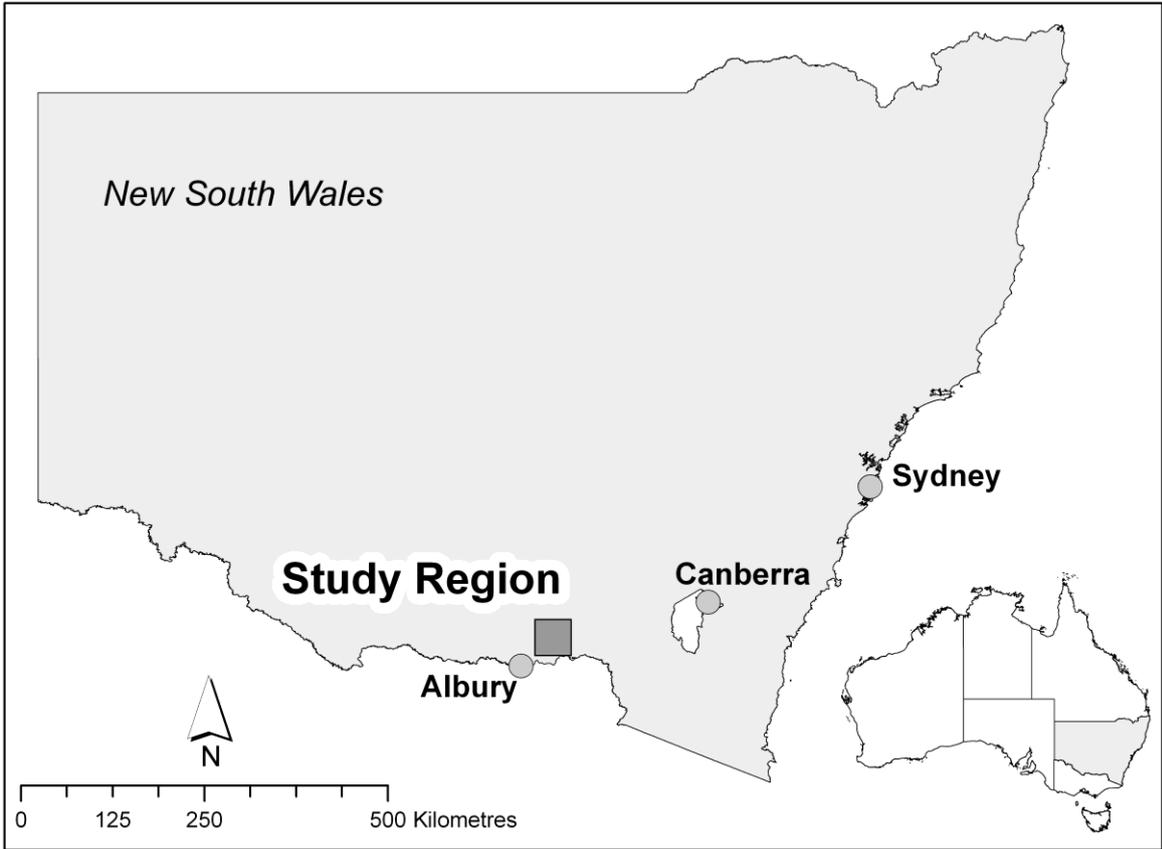


Figure 1 Location of the Meeting in the Middle project area (study region), in south eastern NSW, Australia (S. McDonald Spatial Analysis Unit, Charles Sturt University).

- Balancing soil health and production
- What is the essence of biological farming?
- Indicators of a healthy soil
- Soil testing
- Organic matter, role of OM, soil carbon
- Soil biology
- Plant impacts on soil allelopathy etc
- Water- how do we potentially increase water availability?
- Different management approaches
- Conservation farming program on the tablelands
- Alternative products and inputs
- Communication and information
- Getting action on the ground
- How to identify a priority (explore what they want)
- Literature review to determine what we know and what we do not
- Look for gaps in knowledge
- Information/legacy data base to ensure that information is not lost
- Experience- who has it? Where to access it? And how to apply it.

Figure 2 Unprioritised list of potential activities for Meeting in the Middle, from the community meeting held in Hobrook on Spetember 14, 2007.

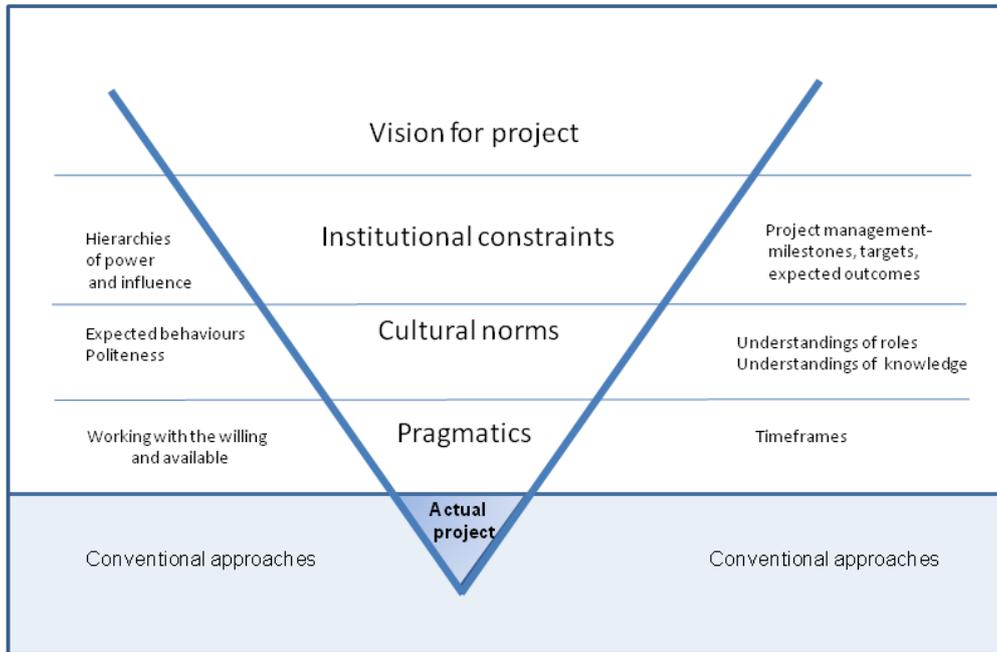


Figure 3 A representation of the various cuts that force projects back into the mainstream