

Reshaping rural extension: New players – new roles

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Abstract

It has been suggested that all conflict relates to attempts to achieve or resist change. Industries based on Australia's natural resources are experiencing major ongoing change, which may well escalate conflict as we struggle to reverse environmental degradation. Governments have responded to these conflicts by urging landholders, government agency staff, scientists, and community and business interests to become "partners", increasingly expecting them to work together to achieve change.

But the key components of partnership – cooperation, voluntary participation, exchange of benefits and responsibilities, and trust – do not automatically emerge when groups of people come together. In reality, suspicion, resistance and misunderstandings are frequently encountered. Without attention being paid to the "nuts and bolts" of successful "partnerships" the concept is in danger of becoming devalued.

Effective partnerships between groups with different interests and values need on-ground support in building agreement. Other disciplines, especially alternative dispute resolution strategies, and particularly multi-stakeholder consensus building have much to offer.

This paper also canvasses the changes needed in Research and Development projects to ensure genuine involvement of end-users – another change requiring skilful facilitation of interpersonal and inter-organisational relationships. Agencies responsible for implementing change will need to become more adaptive and people focused, supporting multi-stakeholder research, promoting sustainable practices and building agreement on the way forward.

The paper also explores opportunities for landholders with the right skills and interests, to become "partners" as knowledge brokers or extension providers in the changing processes of natural resource management.

Media summary

All conflict relates to attempts to achieve or resist change. There are new opportunities for rural extension officers as facilitators of change and consensus building.

Keywords

Change and conflict, Consensus-building, Landholder extension roles.

Introduction

As the Australasia Pacific Extension Network (APEN, undated) identifies “Extension embraces a wide range of methods and processes for facilitating change” by which agents “help organisations achieve their goals through the changed behaviours and practices of a target group”. However, until recently, extension agents have been primarily expected to bring to their role an in-depth technical knowledge about their subject area. As a consequence, extension work has focused strongly on creating awareness, assisting with technical problem-solving and facilitating solutions to management problems through technically-based approaches.

However, change is widely recognised to bring with it a potential for major conflict. It has even been suggested (Acland 1990) that all conflict relates to attempts to achieve or resist change. At a time when industries based on Australia’s natural resources are experiencing major ongoing change, there is a need to reshape the change management role of extension. This has the potential to ensure that unresolved conflict is avoided, and that creative tension is maximised.

Sources of change

The pressures for change affecting rural production, and natural resource and environmental management are numerous and widely varied, ranging from competition in globalised commodity markets to continuing environmental degradation, and restructuring of rural industries.

However, if we focus on research, development and extension in rural landscapes, we find there are a range of more people-related aspects of change to be addressed, each of which has implications for the roles and opportunities of those involved in extension.

Recognising and acknowledging different ways of “knowing”

One of the issues that must be recognised and addressed if sustainable use of the environment and natural resources are to be achieved, is that people from different backgrounds have different ways of “knowing”.

In discussing the management of scientific and technical information in environmental issues, Adler et al. (undated) describe the types of knowledge likely to be brought to the table as “traditional” knowledge, “cultural” knowledge, “local” knowledge and “remembered” knowledge. Millar and Curtis (2000), Lobry de Bruyn (1999) and others have highlighted the importance of ‘farmer knowledge’ in managing pasture and soils. In recognising these different knowledge types, they suggest that by itself scientific and technical knowledge is neither the ‘be all’ nor the ‘end all’.

In similar vein, Brown (In press) describes ‘individual knowledge’, ‘local knowledge’, ‘specialised knowledge’ and ‘strategic knowledge’. Brown suggests that when all these

types of knowledge come together to identify the core of the matter and a common purpose and vision for the future, then we have 'holistic knowledge'.

As Davies (1999) identifies in her paper "Local knowledge derives from people's direct experience of the distinctive social and physical character of particular places and is underpinned by people's attachments to those places..." Local knowledge is variously described as "experiential" or "intuitive". In addition to the examples of local knowledge highlighted by Millar and Curtis (2000) and Lobry de Bruyn (1999), there are other places in which indigenous knowledge, folklore, and family wisdom handed down from generation to generation have influence over landscape management in rural areas. As Davies goes on to say: "local knowledge systems are thus ways of seeing the landscape, which both reflect and shape social values and local people's uses and management of the land."

By contrast with local knowledge, scientists are trained in, and their professionalism and often their funding is judged by how well they conduct structured processes built on hypothesis, experimentation, analysis and the development of conclusions. As the availability of specialist knowledge has expanded, scientists have generally become narrower in their specialisation, with an increasing focus on the detail of their chosen area. No longer can a scientist afford the luxury, often enjoyed by the outstanding scientists of the 19th century, of gaining recognition in several quite divergent disciplines. Here at the beginning of the 21st century, we have reached a point where to be other than a specialist in a narrow and highly technical aspect of one's chosen professional interest is almost to have failed as a scientist.

Furthermore, as Grayson et al. (2001) identify, scientific researchers "are commonly motivated by a desire to learn and develop new knowledge and understanding. This is a fundamental inquisitiveness, quite separate from whether or not the matter under investigation is of immediate practical benefit". What's more, scientists "tend to look for widely applicable general principles (perhaps based on the results of specific experiments)".

Layered over these two major ways of knowing (the local/intuitive/experiential and the specialist scientific) are other ways commonly held by government agencies and community-based environmental groups.

Whether involving rural producers and Aboriginal people, scientists and environmentalists, local government representatives and State government officers, or a mix into which is injected a diversity of policy and community representatives, the 'them and us' issues confronting integration of these different types of knowledge are very real and often not even acknowledged, let alone understood.

Changing ways of developing and communicating knowledge

Scholes, in his paper presented to the International Rangelands Congress (1999) poses the challenging question "Has over a century of investment in range science helped to

mitigate these [rangeland industry and environmental] problems?” He goes on to suggest that scientific theory based on the tradition of observation, hypothesis, experimentation and deduction can only make a real difference if integrated with social and economic theory and on-ground practice.

As long ago as 1981 Carruthers and Chambers, in their promotion of the merits of Rapid Rural Appraisal, highlighted tensions between the academic rural researcher “interested more in detail, precise observation and measurement and rigorous and respectable methodology and with a generally rather unhurried concern for knowledge for its own sake in the longer term” and the practitioner “concerned more with overviews and orders of magnitude, prepared to improvise and make do with data sources and tied deadlines which focus on knowledge needed in the shorter term”. Since then much debate has occurred over the extent to which scientific rigour can, or should be compromised for short-term outcomes.

By 1990 Walters and Hollings were drawing attention to the importance of ‘learning by doing’. In that context, they highlighted “two kinds of science influenc[ing] resource policy and management – one a science of parts, which brings with it a high level of certainty about a narrow subject area, the other the science of integration of the parts, which brings with it ambiguity and uncertainty that are accommodated in policy so long as the outcomes are acceptable”.

Russell and Ison (1991) put a strong case for “contextual grounding of research and development in rangelands”. They went on to argue for a shift away from the “extension equation” by which innovative technology has traditionally been promoted to rural communities:

Research → Knowledge transfer → Adoption → Diffusion

van de Fliert, in his recent paper (2003) on extension, emphasises the fundamental role played by “the human component in a production system” if we are to achieve sustainable agriculture. He goes on to stress the importance of enhancing farmer capacities in “ecological knowledge, observational, analytical and experimental skills, and inclination towards collectivity to allow farmers to make better, informed decisions for location-specific agro-ecosystem management”.

These changing approaches over the last decade and a half represent a fundamental shift away from rural extension based on traditional one-to-one, problem-specific efforts, and away from the deriving of information from research projects designed and undertaken solely by scientists.

However, it would seem that we are still learning how to do a new sort of extension which involves more players, with different skills, needs and different types of knowledge, as discussed above. Key concepts in these new forms of extension are likely to be Participatory Action Research, Action Learning and Adaptive Management.

Participatory action research

While the notion of ‘participatory action research’ dates back over several decades, only much more recently has its application to agriculture, natural resource management and the environment become a focus.

McTaggart (1999), in examining lessons to be learned from experience in other disciplines, highlights three key attributes distinguishing participatory research from conventional research to be

- Shared ownership of research projects
- Community-based analysis of social problems, and
- Orientation towards community action.

‘Action research’ derives from the social sciences and as McTaggart explains, it has a focus on

- self-reflection
- collective self-study of practice
- the way language is used
- organisation and power in a local situation, and
- action to improve things.

In the same paper, McTaggart sources ‘action learning’ to its origins in problem-solving in management and highlights as “the fundamental idea of action learning... bringing people together to learn from each other’s experience”. She goes on to highlight the importance of “studying one’s own situation, clarifying what the organisation is trying to achieve, and working to remove obstacles”.

As Keating draws out in her Facilitation Toolkit (2003) “in ***action learning*** – each participant draws different learning from different experience”, while “in ***action research*** – a team of people draws collective learning from a collective experience”.

McTaggart sums six ‘key features’ distinguishing ‘***participatory action research***’ – namely that it is

- a social process
- participatory
- practical and collaborative
- emancipatory
- critical, and
- recursive (reflexive or dialectical)

The spiral of repeated reflective actions in which McTaggart describes participatory action research is derived from Kolb’s (1984) experiential learning cycle, namely planning a change, acting and observing the process and the consequences of the change,

reflecting on these processes and consequences, and then re-planning, acting and observing, reflecting, and so on. These are also the terms used by others in describing Adaptive Management of natural resources. They are terms largely already familiar to extension practitioners, but they sit less comfortably with many in scientific research.

Adaptive management

The potential for adaptive management to play a significant role in managing natural resources was well captured by Walters and Hollings (1990) in their work on large-scale management experiments. They suggested in that paper that “When policies are defined, management begins and the [same] process of design and analysis occurs, but now in an environment where action has to be taken, however uncertain the outcome”.

They go on to suggest that

“[This] is where active adaptive management can play a central role, because its premise is that knowledge of the system we deal with is always incomplete. Not only is the science incomplete, the system itself is a moving target, evolving because of the impacts of management and the progressive expansion of the scale of human influences on the planet. Hence the actions needed by management must be ones that achieve ever-changing understanding as well as the social goals desired”.

This is a perspective which scientists, policy makers and landholders looking for ‘the answer’ to the problems have struggled to accommodate over a prolonged period.

Today, as Susskind and Secunda (2000) identify, adaptive management is a concept used increasingly in natural resource management to describe the situation where “feedback through experimentation provides opportunities to examine and inform the ways in which producer and consumer practices in the economy may be altered to create environmentally compatible industrial ecosystems”.

Dovers describes the features of adaptive approach as follows:

- Respect for and combination of perspectives from the natural and social sciences;
- Recognition of uncertainty, complexity and long time scales;
- Construing policy and management interventions as driven by a defined purpose, but *explicitly experimental*, consistently testing understanding and capabilities along the way;
- Wide inclusion of stakeholders, in a purposeful and structured fashion; and
- Design and maintenance of sophisticated mechanisms (institutions and processes) of feedback and communication between policy and practice and across different situations.

Dovers (2003) also defines the five core principles of an adaptive approach to be persistence, purposefulness, information-richness and sensitivity, inclusiveness, and flexibility.

The adaptive approach continues to hold enormous potential for the extension area, for it is in this area that extension providers can facilitate changed relationships between scientists and practitioners.

Collaboration in science

As Henderson (2001) highlights in her exploration of collaborative R&D in the sugar industry, collaborative research is interpreted in multiple ways, and the collaboration occurs at various levels. Over many decades, or perhaps even over centuries, research has moved from the individual researcher working in a sometimes very competitive environment which itself generated a degree of secrecy, through within-discipline collaboration, to the multi-disciplinary collaboration necessary to address growing scientific complexity in the systems studied. As work by Adler et al. (undated) indicates, even among scientists, when several disciplines are brought together, their perspectives on, and interpretations of technical and scientific information will differ widely. Using a currently topical example, the geologist, the hydrologist, the ecologist, the sociologist and the rural economist will all view water from an aquifer quite differently.

More recently, as the recognition of both rural production and natural resource management as parts of quite complex systems, and the importance of the human element in understanding these systems and using them sustainably has grown, pressure for researcher-stakeholder collaboration has also grown worldwide. Such collaborations obviously increase the complexity of interactions and interpretations of information.

Through the Cooperative Research Centres program and other major policy and funding initiatives, governments have sought to foster collaborative R&D. However, as Henderson points out, the success of this multi-stakeholder approach to R&D has scarcely been evaluated, and as our own experience in facilitating a multi-stakeholder project directed to social learning for sustainability demonstrates, truly interdisciplinary collaboration is difficult to achieve. Cairns (1991), Grayson et al., (2001) and others all document very real barriers to integrated collaborative R&D. Again, this is an area where extension practitioners with strong interpretive and interpersonal skills can play an important role.

Building successful partnerships

Governments have responded to the tensions arising from change in environment and natural resource management by urging landholders, government agency staff, scientists, and community and business interests to become “partners”, increasingly expecting them to work together to achieve change.

As Gunningham and Sinclair (2002) identify, there are some key components to partnership

- **Cooperation**, with participants agreeing to contribute to the success of a jointly defined agenda. “This is a recognition that partnerships involve participants working together in a mutually supportive manner”
- **Voluntary participation**, recognising that “compulsion could never achieve the cooperation which is inherent in the concept of ‘partnership’, nor could it ensure that participants continue to strive for continuous improvement”, and
- **The exchange of ‘benefits’ and ‘responsibilities’.**

Numerous authors, both in agriculture and natural resource management and elsewhere, have also highlighted the importance of **trust** in building and sustaining a partnership (see for example Kilpatrick and Falk 1999; Lambert and Elix 2000; Lambert and Binning 2001).

These key components of partnership do not automatically emerge when groups of people are brought together for an often externally defined purpose. In reality suspicion, resistance to change and misunderstanding are frequently encountered.

Effective partnerships between groups with different interests and values need on-ground support in building agreement. Yet despite strong policy commitments to ‘partnership’, the term has neither been adequately defined in relation to individual and shared responsibility to address major environmental and natural resource management problems, nor has its meaning remained constant over time. As Lambert and Elix (2000) point out, the interpretation of community-government ‘partnership’ has shifted considerably in successive major policy documents and national programs throughout the 14 years since the Hawke Government (Hawke 1989) called for “co-operative action between individuals and government”.

1989	1992	1996	1997	2003
Hawke “Our Country, Our Future”	Keating “Australia’s Environment: a Natural Asset”	Keating “Conserving Natural Australia”	Hill & Anderson “Natural Heritage Trust”	Kemp & Truss “Natural Heritage Trust II”
Co-operative action	Natural partnership	Conservation through Co-operation	Natural partnership	Genuine community engagement
* Governments co-operating for all * Support of community	* Responsibility for all * Large government role	* Governments & community * All responsible	* Governments helping people do it * On-ground activity by ordinary Australians	* Assisting people to achieve benefits * Community, regional, State/National
Government driven	Government led	Shared responsibility	Delegated to communities	Supported communities

Figure 1. Timeline of changing government approaches to ‘partnerships’ in environment and natural resource management

As recently as January 2002, Gunningham and Sinclair highlighted the lack of a “formal or objective definition of environmental partnerships.”

Furthermore, neither policy nor programs for sustainable agriculture and natural resource management provide for the mechanisms or the time necessary to develop the trust that is integral to successful partnership. As Grayson et al. (2001) point out very clearly, both building partnerships in R&D and the conduct of integrated R&D require an enormous amount of time to be invested in ground work to achieve genuine engagement and to ensure the integration is successful. However, the human resources and time required are rarely accepted as a legitimate investment in publicly funded programs.

Perhaps the first signs of change in this regard are to be found in the recent recognition of the importance of ‘capacity building’ as an integral part of natural resource management. That the National NRM Capacity Building team (Comm. of Aust. 2003) commits to moving “beyond the traditional top-down approach of enhancing skills and knowledge through training and provision of technical advice” to a focus on “enhancing genuine community engagement in all aspects of NRM, from planning to on-ground action” is indeed progress towards partnership-building. This is especially the case given that ‘capacity’ in this context is recognised as encompassing “awareness, skills, knowledge, motivation, commitment and confidence”.

It is scarcely surprising that, despite considerable goodwill and commitment, government agencies, research scientists, rural landholders and those in the community sector who have an interest in sustainable land management continue to struggle with how to turn the policy rhetoric of partnership into action (see, for example Lockie et al. 1999).

Without attention being paid to the “nuts and bolts” of successful “partnership” the concept is in danger of being devalued.

Consensus building

Beyond the rhetoric of partnership, collaboration and adaptive approaches lies the practical realities of people getting on with each other. As many of the Regional Vegetation Management Committees, Catchment Management Boards and other multi-stakeholder processes established in recent years clearly demonstrate, simply getting people with divergent needs and values into a room together to discuss their issues and to plan for a shared future will not necessarily produce the desired outcomes, a fact recognised by Kilpatrick and Falk (1999) in their discussion of the role of farm learning in building social capital in rural communities. These authors note that “not all interactions have positive or beneficial outcomes for individuals or communities, neither do all interactions build social capital”. They go on to note that in their work “getting to know each other and building trust were necessary before sensitive issues were introduced or discussed by group members”, but also that “Changes in these sensitive areas were the changes that lead to major improvements in performance”.

As highlighted at the beginning of this paper, extension lies at the heart of work in natural resource management that is being carried out to bring about changes in attitude and behaviour. An almost inevitable result of this will be some level of conflict – even if it is not well expressed, or well defined.

Acland (1990) writes about the purpose of conflict, contending that there is a need to separate conflict behaviour from the purposes or “the fact” of conflict. While he acknowledges the dangers of generalisation, he states that “All conflict is about the attempt to achieve or resist change. Conflict does not always *cause* change, and change does not always *cause* conflict. But where there is conflict, to understand it better you can do worse than look for the correlation with change”.

Involvement of facilitators in change management processes for natural resource management is becoming a much more common occurrence, with the first phase of the Natural Heritage Trust providing funding for Bushcare, Coastcare and other facilitators, and the second phase promising “approximately 120 full time equivalent landcare-style facilitator and coordinator positions in NSW” alone (Elix 2003a).

As Elix (2003a) identifies, where these facilitators are working with relatively homogeneous groups focusing their activities on on-ground works, then the outcomes are likely to be quite favourable. However, where regional planning processes bring together a diversity of rural interests, many of whom might already have expressed publicly quite strong opinions based on their own, or their interest group’s value sets, the likelihood of progress is much less. In this situation it is, as Grayson et al. (2001) propose “more a question of competing priorities ... and the different imperatives driving various players involved.”

Understanding and respecting these different needs, values and the knowledge bases from which each derives will play an important part in reaching an optimal outcome – an outcome which often requires compromise on the part of all involved. In these processes as they currently exist, agency staff may, at the end of the day, have to meet tight deadlines that do not permit the dialogue necessary to adequately work through the needs and values of the various parties and to build the understanding and trust needed to optimise competing outcomes.

Values clashes

In these circumstances, much can be learned from the discipline of Alternative Dispute Resolution. Many researchers in this field (for example Wootten 1993; Susskind and Field 1996; Davis and Keating 2000; Elix 2003b) agree that intractable conflicts of the type often surrounding natural resource management debates, are based on a clash of values. Burton (1990) describes ‘values’ as “those ideas, habits, customs and beliefs that are a characteristic of particular social communities” and differentiates them from ‘needs’ which are universal motivators. That values play a key role in collaborative effort to achieve sustainable natural resource management is scarcely surprising when one considers Hicks’ (2001) observation that “Values are our most fundamental beliefs about

what is right, true, good and real, and express and embody our sense of who we are”. As Elix (2003b) also highlights “value conflicts lead to anger and other strong emotions, and the emergence of intractability”.

As Adler et al. (undated) make clear, no amount of scientific and technical knowledge will resolve a resource management issue if attention is not paid to the values of those involved. “Values ultimately will provide the basis for decision-making. If they are ignored or not properly accounted for, the appropriate context for analysing and using the information is lacking”.

Thus, those bringing people with different ways of knowing, and different value sets together to work collaboratively and in partnership to plan for the future of their regions must be adequately equipped to address these potentially deeply divisive issues.

Until now, extension staff (whether agency, private provider or community based) have largely been technical information providers. However now that the role of human factors in building effective partnerships for sustainable agriculture and natural resource management is being recognised, the role of ‘extension’ provider should shift to one of facilitator, consensus builder and information broker.

“Cultural translation”

In previous work (Lambert and Elix 2000) we have described this role as one of ‘cultural translator’. Much as a language translator enables communication between people from different language groups, so a ‘cultural translator’ will have the ability to understand and interpret, in ways meaningful to other parties, the cultural values and norms of each participating sub-group in a multi-stakeholder group.

These ‘cultural translators’ will require a real understanding of the geographic and social communities in which they live and with whom they work, and will need the respect of those for whom they seek to translate. The qualities sought in ‘cultural translators’ are those identified by Glavovic et al. (1997) as present in the consummate environmental mediator who is both ethical and effective, namely

1. Advocacy for sustainable development
2. Environmental [and, we would add, rural] literacy, that is familiarity with the language and substance of environmental science and public policy
3. Significant life experience
4. Commitment, integrity and trustworthiness
5. The ability to adopt different dispute resolution styles and behaviours
6. Superb planning and organizational capacity.

As Glavovic et al. emphasise, these are not qualities like communication and negotiation skills, which can perhaps be learned through a training course. Rather they are “innate qualities, attitudes and values... or the product of years of development”. As such, they will require very different selection processes, skill sets and people from those traditionally employed as rural extension officers.

A new role for landholders

Having outlined a desired set of qualities of facilitative extension officers, it is appropriate to ask who might be the best people to undertake these roles. In the Alternative Dispute Resolution community, the concept of a third party neutral, who mediates between different interests as a way of resolving conflict and building agreement, is paramount. However, there are some (such as Mayer 2000) who question whether this is essential; whether, in fact, stakeholders themselves can take on the facilitative role. Our work has reinforced the potential of using landholders themselves as facilitators of change in rural extension. This may be particularly apposite at a time when many landholders are seeking off-farm incomes and the more innovative among them are seeking to broaden their information sources and experiences.

In experimental design and conduct

Calls for collaborative scientist-stakeholder research indicate that landholders should be involved in research teams from the time the problem to be investigated is initially defined, through to the delivery of final outcomes of that project. In some cases, where the projects are of a more ‘applied’ nature (such as a pasture monitoring project designed to assist beef producers in determining the productive capacity of their land, Walsh et al. 1999, 2000) the rural producers, properly supported and advised in their experimental methodology by scientists with relevant technical expertise, may become project leaders. In other, more complex studies, more reliant on technical knowledge to achieve outcomes, scientists might well continue as project leaders, but could do so in partnerships in which landholders and other end users are sitting at the table during project design and providing a ‘reality check’ throughout the study. This approach was used very successfully in the work of Roth et al. (2000), when researching sustainable catchment management in beef producing areas of northern Australia, and elsewhere.

In networking and knowledge brokering

As various projects in vegetation management have (see Williams 2000), have demonstrated:

- The ‘personal approach’ to extension services – face-to-face communication and discussion – is the most effective.
- There is an urgent need to retain, expand and redirect extension services, [and]
- There is considerable evidence that locally employed extension officers, and particularly farmers, will be more effective.

Kilpatrick et al. (1999) identified that some landholders seek information only from local sources, and that many farmers favour informal learning-for-change. This is attributed to their valuing of their independence, familiarity with contextual learning, lack of confidence in working in training settings, preference for information from known sources, and fear of being exposed to new knowledge and skills.

Cary et al. (2001) observe that “the use of new NRM practices will depend on how landholders assess the value of recommended practices and their own and others’ experiences in the use of such practices.” As Gerrish (1999) observes “Fear of change, whether that is fear of lost income or loss of respect by one’s peers, is a very real phenomenon” in rural communities. In seeking to reduce the perceived risk associated with changes in management of their production systems and natural resources, landholders frequently look to their own or other local experiences for confirmation of relevance. Knowing someone who ‘has done it successfully on their own place’ is a powerful recommendation in this regard.

In seeking to improve adoption of sustainable grassland management in the USA, Gerrish and his colleagues at the Missouri Grazing School (Gerrish 1999) bring together scientists, economists and rural producers. They observe that “Producers on the team provide students [both other producers and agency staff] with an assurance that the fundamentals taught in the school can be applied in the real worlds of drought, floods, blizzards, and price cycles”.

Our own experiences in completing a 3-year project directed to conserving remnant Grassy Box Woodlands on the western slopes of New South Wales, which had three ‘real production farmers’ as its public face, clearly indicate that local knowledge, acceptance and respect in the local community, and an ability to ‘practice what I preach’ were important in the high acceptance rates experienced by these Rural Liaison Officers in their work. That same project, and others in which we have been involved, also demonstrate the value of having production landholders working in partnership with government agency personnel and research scientists. Where each respects and values the knowledge and skills that the other brings, more contacts are made, and more trust is built, than would be possible with either party working alone.

At a time when rural communities are experiencing serious contractions in population, and a decline in available skills and services, Williams’ conclusion that this “highlights opportunities for government investment in employment in rural Australia” is a strong message worthy of implementation through government agencies and in R&D programs.

Features of successful landholder-delivered extension

Several important elements have been identified as contributing to ensuring that a shift to employment of landholders as part-time ‘extension’ providers is successful.

Not least is careful attention to both the selection process and the support given to the landholders who take on these roles as networkers and knowledge brokers.

The level of trust, familiarity and respect in the local community of the information providers are crucial to determining the extent to which rural 'extension' is accepted. In recruiting landholders for extension work in the Grassy Box Woodland project, we focused on communication and networking skills, local knowledge and respect in the local community, and demonstrated ability as a self-starter. These were ranked as of equal or greater in importance than applicants' skills in biodiversity conservation, natural resource management or the economic imperatives of rural production.

The importance of the human aspects of these positions is also signalled by research such as Vanclay's (1999) application of the Dutch 'styles of farming' work to Australian conditions; and work by Shrapnel et al. (1997) which examines the importance of personality to ecologically sustainable rural management. By being cognisant of the different social attitudes / farming styles discussed by Vanclay et al. and the personality types discussed by Shrapnel and her colleagues, those filling 'extension' positions will likely be better able to interact with the diversity of people involved in land management. Furthermore, attention to both farming types and personality types during the selection of rural landholders for 'extension' positions will likely assist in ensuring that they are as effective as possible.

Those who bring to these positions good 'people' skills will maximise the likelihood of good communication and networking, and the trust and respect necessary to facilitate sharing of different types of knowledge in ways that maximise outcomes. These will be the people who are effective 'cultural translators'. As mature and already worldly-wise members of their local communities some will likely, with appropriate additional training, become Glavovic's (1997) 'environmental mediators'.

A new role for agency extension staff

Proposals to employ carefully selected landholders as 'extension' providers should not be seen as a threat, or an alternative, to existing agency-based extension staff. The need for their continued involvement as brokers of the issue-relevant technical knowledge generated by the scientific community will continue.

In the Grassy Box Woodland project co-managed by Community Solutions, the State-agency based CMN facilitator (Higginson pers. comm.) identified as "central to the functioning of that position, a strong scientific background and biological understanding of the ecological community, a knowledge of legislation and government natural resource management programs, and good communication and management skills".

However, it was also identified in that project that equally important to the processes of change are the introductions provided by rural landholders operating as networking and knowledge brokers.

In moving beyond technology transfer through the traditional adoption and diffusion processes (see for example Russell and Ison 1991; Cary and Webb 2001; Cary et al. 2001; Cary et al. 2002; van de Fliert, 2003), to a shared approach to knowledge

generation and its application through adaptive management, publicly funded, agency-based staff will play an essential partnership role with rural landholders in bringing all the relevant forms of knowledge to research project planning, implementation, monitoring and review. Theirs will be the principal role in building an interface with the research sector.

Selected for their relevant people skills as well as their technical skills, traditional agency-based 'extension' staff may well become the principal 'consensus builders' for the future.

Conclusions

Based on our own work throughout the past decade, and on a review of relevant literature across various disciplines, this paper suggests that as partnerships in environment and natural resource management become the focus for achieving changed outcomes, the need for greater attention to facilitation and active consensus-building will grow. It proposes that as extension activities are essentially change management activities, they should be viewed from this perspective. Moving from the earlier extension models where information was conveyed from "expert" to "practitioner", towards the involvement of a range of stakeholders in an adaptive, interactive, communicative process, takes more than just goodwill. In particular, the role of both the scientist and the landholder in such processes need particular attention in terms of the difference between the scientific way of "knowing" and that of other stakeholders – particularly landholders.

It is suggested that this area can benefit from an injection of some of the concepts of Alternative Dispute Resolution, including consensus building theory and practice. It is also suggested that expert and able facilitation should be sought from both within, and beyond extension staff.

Recognition of different value sets among stakeholders is one important part of consensus building, as it is frequently differing values that lie at the heart of resistance to change.

The concept of "cultural translators" is proposed as a way of communicating across cultural differences between the range of stakeholders that might be involved. One example of this is the use of landholders as part-time extension officers. Using people with local knowledge, community respect and environmental interest to communicate with their peers is one way of overcoming barriers based on culture and values.

This does not obviate the need for agency-based extension. However, it is suggested that

- such officers should be recruited on the basis of the communication and facilitative skills as much as their technical knowledge,
- specific training should be provided in consensus building, and
- they should perhaps work in conjunction with the landholder extension officers.

The concept of partnerships is in danger of becoming de-valued. It has been used frequently by politicians for more than a decade, and yet not clearly defined. Concurrent with the lack of definition comes a lack of commitment to the “nuts and bolts” of what makes a successful partnership. The key components of partnership – cooperation, voluntary participation, the exchange of benefits and responsibilities and trust – do not automatically emerge when groups of people come together. In reality, suspicion, resistance and misunderstandings are the more frequent characteristics. Appropriately skilled and trained facilitators, with the right job descriptions, can do much to assist in building effective partnerships.

As Australia’s environmental condition continues to degenerate, the need for partnerships will increase. It will not be possible to rely on the skills and goodwill of people on the ground in facilitative and extension positions. Institutions themselves will need to change to become adaptive and people focused, and capable of working with multi-stakeholder groups to undertake research, share information, promote sustainable practices and build agreement on the way forward. It is in this process that extension staff with strong facilitation and consensus-building skills, supported by the relevant institutions, will prove invaluable.

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