

Some practical suggestions for improving engagement between researchers and policy-makers in natural resource management

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Summary Policy-makers and managers in natural resource management (NRM) often complain that researchers are out of touch. Researchers often complain that policy-makers and managers make poorly informed decisions. In this article, we report on a meeting between researchers, policy-makers and managers convened to identify practical solutions to improve engagement between these camps. A necessary starting point is that every researcher and policy-maker should understand, and tap into, the motivations and reward systems of the other when seeking engagement. For example, researchers can be motivated to engage in policy development if there is a promise of outputs that align with their reward systems such as co-authored publications. Successful research-policy partnerships are built around personal relationships. As a researcher, you cannot therefore expect your results to inform policy by only publishing in journals. As a policy-maker, you cannot guarantee engagement from researchers by publicly inviting comment on a document. Actively building and maintaining relationships with key individuals through discussions, meetings, workshops or field days will increase the likelihood that research outcomes will inform policy decisions. We identified secondments, sabbaticals, fellowships and 'buddies', an annual national NRM conference and 'contact mapping' (a Facebook-type network) as forums that can catalyse new relationships between researchers and policy-makers. We challenge every researcher, policy-maker and manager in NRM to build one new cross-cultural relationship each year.

Key words: communication, knowledge transfer, policy, science.

Introduction

We have all heard policy-makers in environment organizations accuse researchers as out of touch, impractical and irrelevant. We have all seen environment management agencies criticized by researchers in the media, in this journal, at conferences or in the tea room for ignoring, under-utilizing or misrepresenting research findings when formulating or implementing policy. Roux *et al.* (2006) suggest that the criticism of policy-makers by researchers and vice versa is an acknowledgement of their mutual dependence! How can researchers and policy-makers work together more effectively to narrow the gap between science and policy in natural resource management (NRM)?

The task of improving engagement between researchers and policy-makers has been discussed beyond the tea room. Cortner (2000) and Dovers (2005) discuss how institutions (including the institution of science) should be designed and interact to be more effective at delivering environmental outcomes. Briggs (2006) identifies some 'pathways to partnership' that are relevant for individuals and organizations including improving communication between the different cultures, developing reward systems that recognize effective collaboration, having mutual respect and power sharing rather than domination by one group over the other and increasing anticipation of research needs of policy issues so science responds in a timely

manner. Pannell (2004) suggests that to inform policy, researchers should understand the policy-maker's perspective, be solution orientated, practical, pragmatic, persistent, should network and have a broad knowledge of the issue in general.

In February 2008, a group of stakeholders met to identify some practical strategies for improving engagement between researchers and policy-makers. The group included researchers from Australia's Commonwealth Environment Research Facilities (CERF) research hub for Applied Environmental Decision Analysis (AEDA), policy-makers and managers from the Australian Government's Department of the Environment, Water, Heritage and the Arts (DEWHA) and other practitioners. This

article presents recommendations from this meeting. Although the policy perspectives were dominated by representatives from a federal government department and research perspective dominated by university academics, many participants in the meeting also drew from their experiences as policy-makers and researchers in other federal government organizations, State Government and in the non-government sector. We acknowledge that the division between policy-makers and researchers is not always clear: some researchers develop policy and some policy-makers undertake research. We limit our recommendations to those that individuals and organizations can feasibly adopt immediately to improve engagement rather than address the more fundamental issues that underlie the causes of poor engagement between policy and science (e.g. Dovers 2005).

A necessary starting point: understand different motivations

We felt that a necessary starting point is for each group to make an effort to understand what motivates the other. Researchers and policy-makers operate under different demands, constraints and reward systems and, why we might not all agree on the validity of these, we recognized that a realistic strategy for most individuals is to work with these rather than try to change them - which is a longer-term proposition.

For many researchers, the key measures of success are the number of peer-reviewed publications (journal articles and books), the numbers of times their publications are cited by other researchers, the profile they can develop for their organization, the amount of external funding that they generate and, for university researchers, the number of students they attract or supervise. Researchers often do not hold permanent or tenured positions or have a large operating budget, so they are attracted to projects that offer funding to support research (including staff) over long periods. Researchers are often recognized and rewarded among their peers for novel findings which often require them to carve out a narrow disciplinary niche. They are not always rewarded for influencing public



Figure 1. A tale of two cultures. Researchers and policy-makers have different reward systems that should be considered when seeking engagement from one another.

debate or industry practice, unless their impact is demonstrable. Scientific research is designed to maximize objective inference, which is why researchers may struggle with providing recommendations when faced with large uncertainties.

Policy-makers work in a very different environment, although some areas of influence may overlap. In modern government, power flows from the top down. The careers of many policy-makers are therefore dependent on advancing policies and programmes that reflect the broader philosophy of the government and their constituents. There are a broader range of competing interests and stakeholders that policy-makers need to consider when providing advice to government than typically considered by researchers. Time frames can be critical for policy decisions.

Knowing what motivates policy and research groups is important when seeking engagement (Fig. 1). For example, policy-makers are likely to attract the interest of researchers by structuring a project,

contract or workshop to include the right to publish parts of the project. Researchers are likely to attract the interest of policy-makers if they identify practical solutions that are consistent with the broader philosophy of the elected government (e.g. budget allocated to the task). The group discussed the possibility of workshops to educate the different groups about these motivations. However, perhaps the most practical and productive way of improving understanding between the cultures of research and policy will be catalysed by building closer and enduring working relationships between the groups.

Build relationships

One member in the group noted that, in his experience, research and policy partnerships 'are all about personal relationships'. Successful relationships are built around trust in the professional and personal integrity of individuals and are characterized by professional candour, balanced opinion

Box 1. A successful working group

One model for addressing specific problems is small working groups comprising researchers and policy-makers. This model requires a well-defined problem and agreed outputs to work effectively. Outputs that satisfy the time frames and reward systems of all parties will maximize engagement. For example, in setting up the Environment Stewardship Program in 2007 (<http://www.nrm.gov.au/stewardship/index.html>), DEWHA invited a small group of researchers to develop a conservation value measure to support future conservation investments through the programme. The project was attractive to researchers because of well-defined policy needs, evidence that the project was to have an impact on policy, a collaborative approach to developing the project brief, a willingness to entertain novel approaches to the problem and an agreement that aspects of the work could be published. The outcomes were attractive to policy-makers because the researchers consulted widely among their peers, the outcomes were initially presented as a set of options instead of the researchers making a unilateral decision on the direction of the project and the outcomes were developed with respect to explicit operational constraints and policy needs. Ongoing interaction between the policy-makers and researchers after the initial delivery of the product was a critical step in securing adoption: it allowed policy-makers to better understand the product which in turn allowed researchers to refine the product based on feedback regarding their policy needs.

and an appreciation of political sensitivities. Policy-makers are wary of researchers who singularly advocate normative or value-laden outcomes. A common complaint among the group was about researchers who provide a policy position instead of advice that can be used to formulate policy options. Researchers are wary of policy-makers who seek support for a pre-determined policy position. What are some effective ways to build these relationships?

Actively disseminate information

Close working relationships are not generally catalysed via the passive dissemination of information (Spilsbury & Nasi 2006). Hamel and Prahalad (1989) noted that many scientists appear to operate under a 'strategy of hope', that is, simply hoping that their work will engage management professionals but doing nothing to further that goal. Simply publishing a paper, presenting at a conference or advertising for public comment will not guarantee that research results will be considered in

formulating policy and vice versa. Researchers and policy-makers should be active communicators by getting on the phone, setting up meetings, working groups, field days or tours (Box 1).

Be an effective communicator

There are some ways to make interchanges between policy-makers or researchers more effective. Pannell (2004) draws on 18 'voices of experience' that have influenced policy in the field of NRM to arrive at some rules for communicating with policy-makers (although the rules can apply for both camps). Among their advice with respect to the style of communication was: work on your general communication skills, be clear and brief, present options (and quantify their impacts), relate your recommendations to policy objectives and do not tell your audience they are wrong. Because everyone is not as adept at communication, it may be useful to put your best communicators 'into bat'. Although individuals or dedicated 'knowledge brokers'

can fulfil this role between organizations or individuals, the group considered it inappropriate to completely delegate this function to expert communicators who rarely have the depth of knowledge or insights possessed by policy or research specialists and may not have the capacity to maintain these relationships.

Maintain relationships

Maintaining close working relationships after the initial transfer of knowledge is critical for successful knowledge adoption. Presenting a contract, report or tool to a research or policy-maker will not guarantee correct interpretation or adoption. Roux *et al.* (2006) noted that researchers can be guilty of providing a 'solution' with the expectation that it will be embraced and then 'move on to another project bemoaning the fact that their work was not put into practice.' Ongoing interaction between researchers and policy-makers enables an idea or product to be better understood, tested and refined to meet policy needs (see Box 1).

Forums to catalyse new relationships

Building new relationships relies on identifying relevant contacts. It can be a daunting task to know where to start. DEWHA for example is an agency with over 2000 staff concentrated in Canberra, but spread around Australia and its Territories, posing challenges for internal communication between researchers and policy-makers let alone communication between researchers and policy-makers from different organizations. What are some forums that might help catalyse new relationships between researchers and policy-makers?

Contact mapping

Organizations could maintain a database of key researchers and policy-makers that match the interests of its own members. A Facebook-type network of people with shared interests in research and policy may be a way of defining these networks nationally and internationally. The onus would be on individuals to maintain this type of network if it were to prosper.

Box 2. A sabbatical in a government department

In 2006, DEWHA was approached by an academic who wished to spend some sabbatical time working in a policy environment. After some negotiation around the nature of the work, the department agreed to host the academic for 4 months. Among the issues negotiated were that the research needed to be relevant to the department's policy interests, the academic would be subject to particular security conditions while in the building and that the department would need to approve any publications that arose from the visit. We would encourage more researchers to contemplate such sabbaticals but in doing so also highlights that working in a policy environment places legal constraints and obligations on individuals.

Secondments, sabbaticals, joint appointments and buddies

Researchers and policy-makers have for some time recognized the shared benefits of building closer links through various kinds of professional cross-placements. Over the past years, there have been sporadic examples of researchers seconded into government to work on a particular technical issue associated with a new policy agenda, but these have not had the objective of fostering a stronger research-policy link but rather of providing technical expertise. In recent years, Land and Water Australia has sponsored fellowships to place senior government officials within a research and development environment to provide time for scholarship and communication. Although most universities host visiting fellows, most appointments tend to relocate an academic from one institution to another, usually to facilitate further research collaborations rather than links with policy-makers. There are examples of researchers undertaking sabbaticals within government departments, although this is not without its difficulties (Box 2).

A less formal and logistically simple alternative suggested by one researcher at the meeting was that all NRM research projects should have a policy 'buddy'. There have been some attempts to start this through emerging science-policy relationships under the Commonwealth Environment Research Fund's group of research hubs (see <http://www.environment.gov.au/programs/cerf/research.html#hub>) and the

Wentworth Group of Concerned Scientists' Science Leaders Program (<http://www.wentworthgroup.org/>).

An annual science-policy conference

The NRM industry in Australia lacks one authoritative venue where researchers and policy-makers come together. Every year, the Australian Bureau of Agricultural and Resource Economics (ABARE) hosts a national 'Outlook' conference that provides an opportunity to debate policy for Australia's agricultural and natural resource management industries. During this conference, ABARE releases its projections for these industries. A similar annual conference focusing on Australia's environmental and conservation challenges, addressing both policy and research needs and perhaps providing an annual report of environmental performance (e.g. State of Environment update), could be a key venue for openly discussing the research and policy nexus and representing a place where cross-cultural relationships can be formed. Another successful model has been The Federation of Australian Scientific and Technological Societies' annual 'Science Meets Parliament' forum (<http://www.fast.org/>) that brings together scientists, politicians, lobbyists and parliamentary staffers.

Indirect communication

When communication is not or cannot be direct, it is important for researchers and

policy-makers to target appropriate media when communicating to their respective audiences or accessing appropriate information.

Publications

Some publications are intended for researchers and others for policy-makers and managers. Policy-makers and researchers limit the impact of their work by communicating information in publications only read by their peers. Researchers tend to publish in journals with high 'impact factors' calculated according to citations by their peers rather than accessibility to, or readership by, policy-makers. We have chosen *Ecological Management & Restoration* to publish this article because it is one of the few publications with a broad readership from research and policy spheres. There are few science mediums that achieve this. Perhaps as a symptom of this, it was the observation by one member of the group that NRM policy-makers routinely scan the literature from law, economics and public sector management such as *Economic Roundup*, *Environmental Policy and Law* or the *Australian Journal of Public Administration*.

The sheer volume of new research can contribute to its inaccessibility by both policy-makers and researchers. To assist policy-makers and researchers, there are several publications that summarize contemporary research. For example, AEDA publishes a newsletter called *Decision Point* (<http://www.aeda.edu.au/news>) that provides summaries of its research findings, related research and relevant contacts. The Bureau of Rural Sciences publishes a Science for Decision Makers series that aims to simplify and summarize contemporary science issues (<http://www.daff.gov.au/brs/publications/series#science>). DEWHA maintains a substantial online publications service that includes fact sheets (<http://www.environment.gov.au/about/publications/index.html#subject>). Most State Government departments have a newsletter or magazine that is circulated among staff. Policy-makers and scientists should consider submitting short articles to publications such as these to expand their reading audiences. Interestingly, the Canadian

Forest Service places such importance on the inaccessibility of research that it has developed an arm specifically designed to interpret the latest research findings for policy-makers.

Calls for research proposals

One method that government uses to solicit relevant research and engage researchers is through targeted calls for research proposals. However, research organizations typically respond to calls for research proposals from dedicated funding organizations (e.g. The Australian Research Council, Land and Water Australia) rather than policy and management agencies. Research organizations concerned with informing policy should actively seek research proposals from policy and management agencies. For example, The Fenner School of Environment and Society at The Australian National University hosts a forum each year in which policy and management agencies are asked to present potential post-graduate research projects.

Conclusion

We have provided some practical ways to improve engagement between policy-

makers and researchers at an individual and organizational level. Although some of these may seem self-evident, we encourage both researchers and policy-makers to build one new professional cross-cultural relationship each year. This can be approached as an exercise in co-mentoring. However, we should not delude ourselves that all policy is informed by research and all research should be informed by policy. Policy decisions are based on a range of considerations. The challenge is to ensure that relevant research results are considered as often as possible. Similarly, research cannot always respond to immediate policy needs if we are going to find novel solutions for our environmental problems. Nevertheless, a better understanding of the cultures of research and policy and improved communication between researchers and policy-makers will lead to better engagement between the two and ultimately better decisions for NRM.

Acknowledgements

The discussion was initiated by Peter Cochrane (DEWHA) and Hugh Possingham (AEDA), organized by AEDA, which is funded through the Australian Government's Commonwealth Environment Research

Facilities (CERF) program, and hosted by the Department of Botany, The University of Melbourne. We thank all members of the workshop who contributed to the discussion. We thank two anonymous referees for providing comments that improved an earlier version of this manuscript.

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