

Closing the loop between research and sustainable regional development

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Abstract

There is continued debate between researchers, policy makers and regional communities on the effectiveness of research in identifying and engaging with regional issues and transferring this research to facilitate policies and initiatives that are adaptive and relevant. This paper reviews these current trends in thinking and describes a model of regional engagement where researchers, decision makers and community are beginning to work together to establish an effective framework to facilitate adaptive decision making, social learning and participatory research initiatives at a regional scale. The paper describes the evolution of the Water in Drylands Collaborative Research Program (WIDCORP) in Western Victoria. The model provides insights and highlights difficulties in converting research into creative solutions for sustainable regional development. Co-location, bridging partnerships across disciplines to deliver regional research needs, and developing good communication are key elements of this model. It also suggests that models of this type may be a stepping stone to integrate research into regional development decision making.

Introduction

There is continued debate between researchers, policy makers and regional communities about the effectiveness of research in identifying and engaging with regional issues and transferring this research to facilitate policies and initiatives that are adaptive and relevant. Recent international discussions (SPLASH, 2008; Saywell, 2008) around the concepts of adaptive management and adaptive governance, particularly in the areas of Integrated Water Resource Management and regional sustainability has further highlighted the needs of both multidisciplinary approaches and social learning as key aspects of effective research to assist sustainable regional growth initiatives and processes (Pahl-Wostl, Kabat, & Moltgen, 2007). This paper reviews these current trends in thinking and describes a model of regional engagement where researchers, decision makers and the community are beginning to work together to establish an effective framework to

facilitate adaptive decisions making, social learning and participatory research initiatives at the regional scale.

Problems and approaches to sustainable regional engagement

The research to research user divide is highlighted as a major problem in the water research field (SPLASH, 2007; Saywell, 2008). Differences in culture, communication and attitude, as well as structure and process hinder the use of research by policy makers, practitioners and other key stakeholders (Edwards, 2004). Some of the major barriers to transfer of research findings identified by SPLASH (2007) and cited by others (Walter, Huw, & Nutley, 2003; Edwards, 2004) are:

- Communication gap including poor communication skills, lack of partnerships, inaccessible research findings that lead to a lack of understanding (both practical and conceptual) between researchers and research users;
- Differences in time-scales or planning horizons between research and policy (long term academic research versus short-term needs of policy makers)
- Tensions between incentive structures - Researcher reward systems are based on conceptual advances, journal publications and peer-review whereas policy-makers need to address 'cross-cutting' problems within short time frames.

Communication is one of the biggest challenges to overcome the lack of effective transfer of research outcomes 'on the ground'. Successful partnerships require communication which acknowledges and confronts issues of researchers and research users attempting to work together (Walter et al., 2003).

Communication between researchers with different expertise also poses problems as complex and applied research problems are being addressed within a multidisciplinary research agenda. There is now general acceptance that single disciplines in isolation cannot address the complex problems of sustainability in rural and regional development. An integrated and multidisciplinary approach may be described as 'Mode 2 knowledge' (Johnson, 1998). This knowledge is characterised by the production of knowledge in the context of application, a trans-disciplinary approach and resources, a diverse set of skills and experiences used in knowledge production, and quality control through peer review and wider application.

Many countries have shown a renewed interest in the research-policy/practice nexus and ways to create sustainable partnerships and effectively engage in local regions. Like other regional universities, one of the key priorities of University of Ballarat (UB) is being engaged with its regional community through "mutually-beneficial exchange, exploration, and the application of

knowledge, expertise and information” (Holland, 2001). The UB’s Regional Research Framework (IRRR, 2004) sets out the necessary elements of creating a collaborative programmatic approach to regional research and the advantages of such collaborative partnerships.

Often research questions emerging from rural and regional areas require creative approaches to produce responsive research. Within the UB framework there is acknowledgement of the need for cross-disciplinary approaches to make significant contributions to improvements in regional development and this involves collaboration. Regional engagement based on collaborative research can deliver many benefits for both universities, and the communities they serve. Communities may gain more sensitive policies and sustainable programs, and increased empowerment. For universities, the advantages are participation in research supported by the community, the possible development of new avenues of discovery, and the application of knowledge that will directly benefit the region (Thompson, Story, & Butler, 2002 cited in IRRR, 2004).

There is a growing evidence base of the key characteristics of which to building successful research collaborations. One element of effective partnerships is co-location of a team of researchers within the region of interest (Walter et al., 2003). This fosters the partnership between researchers working in close relationship with the community and industry stakeholders. Researchers have the opportunity to gain an understanding of the local community needs and issues in the applied setting. Another element is ongoing interaction between researchers and stakeholders throughout the research process: “from the formulation of the research questions and design of the project/s, to collection and analysis of the data, and dissemination of the results” (IRRR, 2004) p. 11). This approach encourages the sharing of resources to achieve strategic objectives of both organisations, capacity building among stakeholders and research outcomes that are locally relevant and useful (IRRR, 2004). A positive spin-off of this collective action is social learning “whereby the intellectual and research capabilities of the university are complemented by the contextual understanding of the community partners” (IRRR, 2004) to learn, discuss and manage problems effectively (Pahl-Wostl, 2007).

The UB Regional Research framework outlines eight key components, from the literature (W.K. Kellogg Foundation, 2002), in which to form effective collaborations between universities and their communities. These are:

- “See their present and future well-being as inextricably linked
- Collaboratively plan and design mutually beneficial programs and outcomes
- Engage in social learning
- Respect the history, culture, knowledge and wisdom of the other

- Create structures that promote open communication and equity of one another
- Have high expectations for their performance and involvement with each other
- Value and promote diversity
- Regularly conduct a joint assessment of their partnership and report results” (IRRR, 2004, p. 16).

This model is underpinned by the presence of a supportive university culture; long-term meaningful relationships; solid resource development strategies and well cultivated, creative project ideas (Haire & Dodson-Pennington, 2002). In the following section this model is discussed alongside the development of a programmatic collaborative regional research program and the lessons that can be learned from this program in its endeavour to be collaborative and have research impact.

A research model for regional engagement

Evolution of WIDCORP

This section of the paper describes the evolution of an innovative research program with an initial focus on providing regional decision makers and communities with information to enable them to optimise the benefits of a major water reform that is occurring in their region. This program is the Water in Drylands Collaborative Research Program (WIDCORP) located in Western Victoria. It is a collaboration between UB – who has a strong commitment to sustainability principles and to conduct research that delivers benefit to the region it serves – Grampians Wimmera Mallee Water (GWMWater), the Department of Primary Industries (DPI), Department of Sustainability and Environment (DSE), Wimmera Uniting Care (WUC) and a wide range of other regional agencies representing the community, various levels of government, and other research organisations. Key features of this program are that it is located in the region in which the research is being conducted, and that it will draw together a multidisciplinary research team involving UB, other universities and research organisation and regional stakeholders to undertake applied research.

WIDCORP emerged from a desire for a regional community and a university newly committed to regional programmatic research to develop a collaborative and regionally focused program of research. An opportunity arose for such a research program in response to regional stakeholders wanting to ensure that the benefits of a major water infrastructure project – the Wimmera Mallee Pipeline – were optimised and the economic, environmental, social and cultural sustainability of the region was enhanced. WIDCORP was conceptualised through a series of regional forums, workshops and discussions with a wide range of stakeholders over a two year period. The main research aims were formulated during this period, as was the structure of the program and the

program was launched in 2004. This process of engagement ensured that the research program was 'owned' by all stakeholders and was not seen to be driven by the University. The structure of WIDCORP is determined by a Heads of Agreement and Statutes and includes a Board with an independent Chair and representatives from all partner organisations and a Research Advisory Committee which represents other stakeholders within the region and the University of Ballarat Research Centres.

The program, through the Board and Research Advisory Committee, developed a clear strategic plan and research staff and a Research Director were appointed in 2006 to develop and deliver the research to the region. This strategic plan commits WIDCORP to contribute to understanding the economic, environmental and social implications of changes in the region's water resources in terms of security of supply and improved water quality. It aims to build regional capacity and capability through alliances with other research organisations and agencies to deliver quality research outcomes for the Wimmera and Mallee communities. Ongoing investment in WIDCORP commits program partners to collaboratively work to identify and invest in high quality research that underpins, supports and promotes the economic prosperity, environmental sustainability and social wellbeing of the communities of the Wimmera Mallee region.

The strategic plan sets out an ambitious mission and vision and a diverse set of research aims. Fulfilling these aims for regional on-ground outcomes, policy development and university research criteria remains challenging. A recent conference (SPLASH, 2008) highlighted the paucity of positive experiences linking researchers with regional practitioners and decision makers (Saywell, 2008).

Lessons learned for effective regional engagement

The evolution of WIDCORP over the period 2002-2008 may provide some lessons for effective engagement of regional partners and the transfer of research to regional decision making. The lessons outlined in this paper fall into the following categories: co-location, expectations, dissemination, responsiveness, funding, multidisciplinary research and measuring success. As learning is a continual, organic process within the program, these experiences by no means reflect all of the lessons learnt or indeed those still being learned.

Co-location

One of the key criteria for WIDCORP was its location within the region where the research was being conducted. WIDCORP is situated at a small rural campus (Horsham) of the University of Ballarat and is the only research group located at this campus. This co-location of research and research users provides the most critical determinant for the success of the WIDCORP model. It however creates two

contrasting situations; the benefits of being fully immersed in the regional research environment, and the disadvantage of isolation from the research community located at the main university campus in Ballarat – the lack of a critical mass. WIDCORP and its successes would not exist if it was not co-located therefore 'location matters' however this requires a continued commitment from the University to provide ongoing support for this program and to facilitate research connectivity between the campuses. The implications of the lack of critical mass remains a challenge.

Expectations

Expectations are often set very high and the ability of research to deliver outcomes over short time frames is challenged. This was certainly the case with WIDCORP. To assist in overcoming this expectation disparity there needs to be effective dialogue between researchers and research users to clarify what can be delivered and what is needed. Often there is a role for an intermediary in this process to 'translate' diverse expectations and this often takes time. It is also important that continued dialogue occurs and research findings are communicated as they are being developed. Waiting for final reports or published papers for dissemination reduces the benefits of the research to the research users. Such a free flow of information requires trust, honesty and respect between researcher and research user. This mutual regard requires time to build through ongoing dialogue.

Dissemination of information

Dissemination of information is another lesson. When, how and who is the information relevant to and at what stages of the research process is this so are questions that need to be considered. Engaging the partner in the research assists this process and has occurred with some success in WIDCORP. To achieve this collaborative research engagement again requires time and commitment from all parties and should be included as part of the project plan. In academia, communication of results is often listed in project plans as published journal papers, reports, workshops or forums. It is not common to see staged points of dissemination through the project or meeting with partners to discuss results, nor producing results in a format accessible to research participants written into project outlines. WIDCORP have attempted to provide a knowledge sharing process whereby research findings are openly discussed with research users as they emerge and are communicated through a magazine format to participants. These dissemination processes are clearly identified in the project plan together with peer review and other communication methods as appropriate. The question of 'ownership of knowledge' may be raised by members of the academic community. Clarifying this issue involves drawing a distinction between user knowledge relevant to the on-ground application, and academic knowledge relevant to a discipline or researchers' academic interests.

Responsiveness

Responsiveness and flexibility are critical for successful collaboration between universities and their regional communities. Continued and sustained engagement is needed. During the initial three years of WIDCORP very limited research was undertaken. This created concern between the partners and the wider community. During this time research projects were developed but the capacity of WIDCORP to undertake the research was limited. Continued review and modification of projects was required to enable research to commence. In some cases opportunistic research was considered – that is research that was outside the research plan. This process has continued in response to the available skills base and to opportunities that arise. Responsiveness to the needs of the region requires a range of project capabilities to be on call. This remains a challenge for the program having limited internal resources. However, it has given WIDCORP the opportunity to bridge partnerships between the affiliated UB academic research centres and its widening external research networks. WIDCORP, in the role of a ‘research broker’ rather than a research program, is regarded as a valuable function of the program to partners and regional stakeholders although it may not be directly measured by research outcomes.

Funding

Whilst funding remains a challenge for this research program, a key lesson learnt is that research collaboration can be strengthened in the absence of larger research grants. Partners contribute funds as defined in the Heads of Agreement some of which are assigned to specific projects and other funds are not. Initially the expectation of WIDCORP would be that it would attract significant research funding into the region. This was the main focus of attention in the initial years. WIDCORP has had very limited success in this. Partner funding was to be used to leverage other funds however this expectation has to some degree changed. WIDCORP is now using this funding to undertake projects with a view to building a research track record which will then assist in attracting research funding from other sources. This has involved a significant shift in the relationship between the WIDCORP partners and has facilitated a greater level of collaboration and research focus. While large research grants would be welcome, the absence of this funding source has strengthened the commitment and collaboration and the delivery of research to the research user.

Multidisciplinary research

The challenges for building multidisciplinary research needs to be recognised. It is important that such approaches be planned and resourced with researchers who can bridge the discipline gap and that sufficient time is allowed to develop projects. Breaking down the discipline silos is often a difficult and a time consuming activity. It is one of the most difficult challenges faced by WIDCORP and requires strong commitment from Research Centre’s and researchers. In addition, while multidisciplinary research is encouraged in research grant applications, it seems

that the ability of gaining funding for such projects remains difficult. This poses yet another challenge.

Measuring success

Measuring success or impact has become increasingly important as a validation of the effectiveness and value of research to the wider community. Under the previous Government, the introduction of the Research Quality Framework (RQF) in 2006 (Duryea, Hochman & Parfitt, 2007) began to raise awareness about how to measure impact and was being implemented at the University of Ballarat. Whilst the framework offers a way to operationalise the concept of impact, at the regional scale this remains elusive.

Traditional measures via publications, funding success, promotions, are not a good measure of impact at the regional level. The impact of research has been and remains difficult to quantify at this level. The WIDCORP model provides some insights into how this is occurring and highlights the difficulties in converting research into impact and then measuring it. It is evident that research undertaken in WIDCORP with partners and with other community stakeholders has had an impact. This impact may be that it prompts a new idea or a new approach to inform a decision around the coffee table, it might provide a new way of understanding community aspirations, or it might provide a reality check on how certain actions are influencing community expectations. All of these impacts are localised and have not occurred in a way that is 'measurable' in any quantitative way. They are qualitative measures implicit in how decisions and policies are being developed about sustainable regional development in a particular region. Translating these to a wider context is a challenge that academics will need to address if they are to be measured as having impact on a scale that will be recognised in research quality outputs or measures. This is a challenge that goes beyond the collaboration with the regional partners and therefore requires researchers to develop more diverse ways to measure impact – at WIDCORP this is a work in progress.

Conclusion

The participatory research approach taken by WIDCORP in itself blurs the lines between research, action and impact. While the paper describes a model for effective regional research through a multidisciplinary team, it does not purport that this model solves the dilemmas of delivering research in a way that facilitates creative solutions for sustainable regional development. It does however provide some evidence that models of this type may be a stepping stone in the transition to regional development decision making that is adaptive in response to the uncertainty brought about by climate change.

From the above discussion of the WIDCORP program it can be concluded that there has been some success or learnings in how to achieve effective collaborations between universities and their communities. This relationship requires understanding the mutual benefits of working together and setting common goals, putting in time and commitment to build trust and respect, being flexible and willing to learn from each other, and working together with open engagement and transparency throughout the process of research. The structures in place to bring research and community effectively together within WIDCORP are its co-location, its written agreement between partners to facilitate research pathways, its role as research broker to draw on cross-disciplinary research bodies (both internal and external) for knowledge production, and delivering results with applicability to community stakeholders and to a wider national and international platform. Through its beginnings from the UB regional research framework, it is hoped that WIDCORP will be seen as a best practice example of a cross-disciplinary collaborative approach to regional research – a Mode 2 research program.

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