'Ready, Set, Go!': Using the 'Community-Readiness' Method to Engage Social Networks for Sustainable Natural Resource Management in the Queensland Murray Darling Basin

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Abstract

The notion of 'social capital' has been the subject of considerable academic and general discussion since the concept was revived by Coleman, Putnam and others in the 1980s. The extent and efficacy of social networks are, it is argued, a crucial aspect of social capital. For the purpose of this study, it is the networks comprising natural resource management (NRM) systems that are the focus of attention. Research, using a methodology derived from the 'community-readiness model', has sought to examine the extent to which members of NRM groups engage in, and make use of, formal and informal social networks in the Queensland Murray Darling Basin region.

The 'community readiness model' is based on the premise that processes of an organisation are partly determined by its stage of development, or readiness, for accepting and implementing change. This 'readiness' is thought to be a major factor in determining whether or not an initiative is sufficiently supported and effectively implemented by an organisation, and whether organisations within a community are adequately developed to enable effective cooperation, mutual support and engagement.

In the context of the study undertaken, networks are primarily formed for the purpose of enhancing natural resource management. However, research indicates that they also serve a range of unintended 'informal' purposes that increase the level of 'social capital' within communities. This paper argues that the use of the community readiness model to examine social networks and social capital is an effective means of facilitating engagement and fostering beneficial change within communities.

Introduction

The question of what constitutes a strong, viable or 'healthy' community has preoccupied sociologists since the emergence of the discipline in the 19th century (for a discussion on the idea of 'community' see Nisbet 1973). One of the more recent contributions to the debate concerns the notion of 'social capital' (Coleman 1988; Putnam et al. 1993), a chief constituent

1

of which is 'social networks' (Boisjoly et al. 1995; Burt 1997; Portes 1998). Putnam (cited in White 2002, p. 256) defines social capital as "the features of social organization, such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit". It is argued that when a community is endowed with a range of social networks that are founded on trust, reciprocity and 'mutual aid', a greater degree of civic engagement and social cohesion is the likely result (Cuthill 2003; Devine-Wright et al. 2001; Field 2003; Forrest and Kearns 2001). Putnam et al. (1993) suggests that "communities [in which] trust, reciprocity and social networks are strong [are characterised by] collective action and cooperation to the benefit of society". As Putnam (1995, p. 67, cited in White 2002, p. 259) points out, "networks of civic engagement foster [norms of] reciprocity and encourage the emergence of social-trust. Such networks facilitate co-ordination and communication, amplify reputations, and thus allow dilemmas of collective action to be resolved".

In the context of natural resource management (NRM) in the Queensland Murray Darling Basin, it is theorised that by building, or improving, social networks among NRM-related organisations such as landcare, catchment and sub-catchment groups a greater degree of community involvement in NRM activities will result. As previous research indicates (for example Grasby 2004), an increased level of community involvement in NRM groups and activities is likely to lead to the adoption of sustainable land-use practices on a more comprehensive scale. Broadening social networks is seen as integral to the process by which information-flows occur and ideas about sustainable NRM flourish.

For the purpose of this study, engaging community members in more sustainable forms of natural resource management was conceptualised as the 'problem', which the research and methodology has sought to address. The 'community-readiness model' (Jumper-Thurman, et al. 1997, Beebe et al. 2001) has been used to assess the extent to which NRM groups and organisations are prepared to engage in, or improve the level of, networking and network-building, which is theorised to lead to more effective community engagement in NRM-related activities. Thus, the community-readiness model has been used to examine the extent to which NRM groups in the Queensland Murray-Darling Basin and Condamine Catchment are prepared to build, or enhance, their social networks as a means of facilitating engagement with other NRM-related groups and organisations, government departments and the wider community. Then, based on the level of 'readiness' to engage in networking or network-building, intervention strategies in the form of training courses and the like, can be devised to propel the group or organisation to a heightened level of 'readiness'.

What are 'healthy' social networks?
The point arises, however, as to what 'social networks' actually are and how the notion of a 'healthy' social network is determined. Let us first address the question as to what social networks are. Drawing from White (2002, p. 259) it can be argued that social networks refer to

the myriad social relationships of which communities are comprised, and which may be "sources of material, informational and emotional aid". To White (2002, p. 261), social networks can be conceptualised as the "web of social relations or resources that surround individuals, groups or organizations". White (2002, p. 261) continues and argues that the nature of ties between people, both as individuals and as members of organisations, are an important element to the strength and durability of social networks.

But how are social networks actually 'measured'? Drawing once again from White (2002), it can be argued that "measurement usually refers to size of networks and the number and nature of connections and this has been shown to correlate well with material, informational and emotional benefits" (p. 259). Differences exist, however, in the extent to which NRM groups access, or have access to, social networks, a situation that can fundamentally influence their effectiveness. As Forrest and Kearns (2001, p. 2130) point out, "…the differences between [groups] may perhaps best be understood as the differences between the form and content of social networks". It is necessary, therefore, to examine not only the types of networks that NRM groups access, but also the 'form and content' of those social networks. For this study, information about the kinds of social networks accessed for NRM purposes was gleaned from qualitative data in the forms of focus group sessions and one-on-one interviews with key informants and from the administration of a survey questionnaire. The questionnaire was also used to assess the level of readiness of the group to which the respondent belonged to engage in networking and network-building. The attributes of the social networks, and the extent to which those networks can be accessed by NRM group members has, as this paper will demonstrate, been accomplished through the mechanism of the community readiness methodology.

Research problem

The networks that comprise natural resource management systems represent a community, a collection of organisations connected by a common purpose, where members exercise some influence over their processes for the mutual satisfaction of achieving set goals. Within any such community, each organisation is not necessarily engaged in the same process for achieving an identified goal, centred on instigating some change in policy to effect community behaviour. One reason for these differences is that the processes of an organisation are partly determined by its stage of development, or readiness, for accepting and implementing change. This 'readiness' is thought to be a major factor in determining firstly, if an initiative is sufficiently supported and effectively implemented by an organisation and secondly, if organisations within the one community are positioned to cooperate with each other to provide mutual support and engagement. The lack of universal outcomes, those that depend on cooperative networks of organisations, can therefore be understood in terms of the congruence between the processes implied by any policy or program initiative, and the state of readiness of each organisation in the network to engage in such processes. Assessing the

stage of 'readiness' for NRM groups within the Queensland Murray Darling Basin to engage in networking, or to build effective networks, is the problem that the research and methodology has attempted to resolve.

Research design and methodology

As Edwards et al. (2000) argue, the Community Readiness Model provides a practical research tool that has been developed to help communities understand their strengths and vulnerabilities to manage change. The methodology has been highly effective in developing the capacity for multiple levels of community agencies to cooperate on policy and program development to affect, for example, alcohol and drug use and domestic violence.

Edwards et al. (2000) point out that the community readiness model is based on several underlying premises:

- That organisations within a community are at particular stages of readiness to deal with any given problem, and may be at one stage on one issue and at another stage on a different issue
- That the stage of readiness can be adequately assessed
- That groups can progress through the readiness stages with appropriate intervention strategies, such as training
- That it is critical to identify and be at the stage of readiness required to manage program development that implicitly requires change.

According to Edwards et al. (2000), there are nine stages of readiness. The stages are listed in Table 1.

Table 1. Stages of organisation and community readiness

Stage	Description
1. No awareness/tolerance	Issue not recognised or community norms actively tolerate the behaviour
2. Denial	Recognise issues, but no awareness of relevance to a local problem or that local solutions can be effective
3. Vague awareness	Recognition of the local issue but no motivation or leadership
4. Preplanning	Understanding of the problem and solutions tend to be stereotyped and leaders and committee are incapacitated in real planning
5. Preparation	Active and energetic leadership and trial programs begun
6. Initiation	Program may be starting or still on trial. Enthusiasm still exists because limitation and problems have not been experienced
7. Institutionalisation/ stabilisation	Established funding with administrative support, no sense of the need for change or expansion though limitations may be recognised
8. Confirmation/ expansion	Funds for new programs being sought or committed, programs viewed as valuable and authorities support expansion through new programs or outreach of current programs
9. Professionalisation Collaboration/ synthesis	Highly trained staff running the programs, supportive authorities and community involvement; effective evaluation leads to detailed and sophisticated knowledge of the related issues which is used to test and modify programs.

Source: Edwards et al. (2000)

Research design

The community readiness assessment has been applied to a number of NRM organisations and groups in the Queensland Murray Darling Basin. The assessment followed a process whereby key informants were interviewed and asked a series of questions based upon a standardised, semi-structured interview-schedule (Edwards et al. 2000). In addition, a questionnaire was administered to a number of people within the NRM group or organisation. The organisations were chosen on the basis of their position within, and between, layers of a network of groups and organisations that perform a NRM role in the Queensland Murray Darling Basin. Intervention strategies that have been demonstrated as effective in moving organisations to a common stage necessary for cooperative ventures, will later be considered and adapted to suit the purposes of network-building in a NRM context. It is envisaged that the intervention strategies will be compiled into a training manual and trialled within the study area.

Questionnaire design

The questionnaire design is based on a model that is used, and made freely available for the purpose, by the Tri-Ethnic Center for Prevention Research, which is attached to Colorado

State University, USA. Essentially, the Tri-Ethnic Center allows researchers free access to the questionnaire, which may be downloaded from their website and modified to suit the specific research-purpose. The questionnaire consists of a range of demographic questions followed by questions specific to the 'community-readiness' methodology.

The extent to which communities are ready to engage in networking is assessed on the basis of five 'dimensions of readiness'. The five dimensions are outlined in Table 2.

Table 2. Five dimensions of readiness

Dimension	Description
1. Community awareness	Examines the extent to which the community is aware that the problem or issue exists
2. Community climate	Examines the willingness of the community to deal with the issue or problems in general
3. Community knowledge	Examines the level of community knowledge about the issue and ways to deal with it
4. Community leadership	Examines the extent to which community leaders are aware of the issue and willing to deal with it by making resources available
5. Resources available to deal	Examines the extent to which resources have been made available to deal with the problem

Source: Adapted from Edwards et al. (2000)

The 'community-readiness' component of the questionnaire consists of a series of Likert-scale questions that conform to the five dimensions of 'readiness' and from which respondents are able to make four (4) choices; the choices being 'Not at all true', 'Slightly true', 'Moderately true' and 'Very true'.

Answers to the questions form the basis of the 'readiness' evaluation, which is described in more detail further on.

Methodology

In consultation with the two regional bodies in the Queensland Murray Darling Basin (Condamine Alliance and the Queensland Murray Darling Basin Committee) key informants from a range of NRM groups and organisations were selected for a one-on-one interview and administration of a community readiness questionnaire.

The interviews usually ran for about one hour and covered such issues as the networking efforts currently being undertaken by the group, knowledge of other organisations and levels, leadership, knowledge of issues, funding and general community support, and the general question as relating to what the respondent derives from belonging to, or being involved in, a

NRM network. The purpose of the interview was to act as a 'stimulus' for issues that arise later in the survey, and to provide qualitative data that can be used to provide additional information and a degree of illumination of the data collected by way of the questionnaire.

Following the interview, the questionnaire was left with the interviewee to complete in their own time and return to the researcher. An attempt was made to ensure that at least two or three members of each group or organisation was interviewed and administered a questionnaire, although this was not always possible.

In addition to interviews and the questionnaire, a number of focus group sessions were held to gain further insights into social networks and network-building in the study area.

Data analysis and evaluation of readiness

For each group reviewed as part of the research process, an assessment has been made of the 'readiness' of the organisation to engage in networking or network-building. The intention is for comparisons to be made between organisations that operate at similar levels within a conceptualised 'hierarchical' structure, focussing on organisations at the regional, catchment and sub-catchment (local) levels. In this way, conclusions about the strengths and deficiencies of groups within the network, and their capacity for co-operative engagement, can be ascertained.

The information from the questionnaires was firstly entered into SPSS to simplify the extraction of demographic data in descriptive form. From there, the data were imported into a suitable spreadsheet program (MS Excel) to enable various computations, which are not available in SPSS, to be carried out.

To enable assessment to take place, questions were grouped according to the five dimensions of readiness that are described in Table 2. The responses to the questions that relate to each dimension were summed and the aggregate score used to identify the stage of readiness for each dimension.

Finally, the score for the dimensions are summed and then divided by five to produce an combined 'readiness score'. The combined readiness score is then used as a basis to determine appropriate 'intervention strategies' by way of briefing sessions, training courses and so forth. Attention will now be directed towards explaining the intervention strategies that the readiness model has identified.

Intervention strategies

The researchers responsible for the development of the community readiness model (Edwards et al. 2000) have devised appropriate strategies for advancing communities and

organisations toward higher stages of readiness. The strategies consist of defined goals for each level of readiness, which, as with other aspects of the community readiness model, may be adapted to suit particular research purposes and local circumstances. Some examples of intervention strategies, which have been applied in previous research (Edwards et al. 2000), include the use of the media to increase awareness, conducting focus groups to prepare plans to address particular local issues, the development and sharing of ideas or information with other communities and groups and so forth.

For the current study, generic training packages will be developed and used to build the capacity of NRM groups to engage in network-building. By varying the content and strategies according to the needs or particular local circumstances of the groups being reviewed, training can be tailored to the specific requirements of the group or organisation under review. Thus, organisations involved in the assessment will receive training appropriate to their current level of readiness with the aim of establishing a uniform stage of readiness between organisations and network-layers within the Queensland Murray Darling Basin NRM network. In so doing, a contribution will be made towards building the capacity of groups and organisations to engage in network-building and to encourage the formation of appropriate levels of social capital.

Conclusion

In the Queensland Murray Darling Basin, engaging community members in more sustainable natural resource management (NRM) activities is an important element to environmental and social sustainability. One means by which this can be achieved is by extending the existing networks of people engaged in NRM activities. As previous research (Grasby 2004) indicates, ideas about new or innovative solutions to environmental problems can be more easily transmitted through social relationships. Furthermore, as the literature referred to earlier in this paper indicates, effective social networks are essential ingredients of healthy and sustainable rural communities (Cuthill 2003; Devine-Wright et al. 2001; Field 2003; Forrest and Kearns 2001) and an important element of 'social capital' (Boisjoly et al. 1995; Burt 1997; Coleman 1988; Portes 1998; Putnam et al. 1993). The research for this paper lends a degree of support to that view and indicates that the community readiness model is an effective way of examining the degree of preparedness of groups and organisations to engage in network-building and a means by which communities and organisations can progess toward higher stages of network-building readiness.

As Edwards et al. (2000) argue, the community readiness model is ideally suited to the resolovtion of 'social problems' such as alcoholism and domestic violence. The research for this paper indicates that the model can also be applied to issues which may be seen as less problematic, but nonetheless important to address, for long-term environmental and social sustainability.

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