


Building healthy social networks for sustainable natural resource management

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Overview

It is theorised, in the context of natural resource management (NRM) in the Queensland Murray-Darling Basin, that by building or improving social networks among NRM-related organisations in the Murray-Darling Basin—such as Landcare, catchment and sub-catchment groups—a greater degree of community involvement in NRM activities is likely to result. Previous research indicates that 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 broader scale.

The research and methodology of this study sought to address the problem of how to engage community members in network building to achieve more sustainable forms of natural resource management. The ‘community-readiness model’ has been used to assess the extent to which NRM groups and organisations are prepared to engage in, or improve the level of, networking or network –building.

Specifically, the model was 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 engaging with other NRM-related organisations, government departments and the wider community. The study determined the degree to which the ‘health’ of social networks contributes to the effectiveness of Landcare, catchment and sub-catchment groups.

Introduction

Increasing involvement in NRM groups and activities is important for adopting sustainable land-use practices in the Queensland Murray-Darling Basin. Building or improving social networks among NRM-related organisations—such as Landcare, catchment and sub-catchment groups—is one way to generate greater community involvement in NRM activities. This is integral to the process by which information flows occur, ideas about sustainable NRM practices are transmitted and innovative practices flourish (White 2002).

The research and methodology of this study sought to address the problem of how to engage community members in network building to achieve more sustainable forms of natural resource management. For the purpose of this study, the need to engage 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 in the Queensland Murray–Darling Basin and Condamine Catchment are prepared to build or enhance their social networks as a means of engaging with other NRM-related organisations, government departments, and the wider community.

In addition to examining the types of networks that NRM groups access, the form and content of those social networks must be considered. For this study, information about the kinds of social networks accessed for NRM purposes was gleaned from qualitative data acquired through focus group sessions and one-on-one interviews with key informants. Qualitative data were also

gained from responses to open-ended questions in the survey questionnaire.

Arising from this study has been the development of a 'Community Readiness for Networking, Self-Assessment Toolkit'. The toolkit will be made available through the websites of the regional NRM bodies in the Queensland Murray-Darling Basin (the Queensland Murray-Darling Committee and Condamine Alliance) for other NRM groups and organisations to examine their own level of readiness to engage in networking or network building.

Research problem

For the purpose of this study, the networks that form natural resource management systems in the Queensland Murray-Darling Basin were taken to be a 'community', which is defined by Jumper-Thurman et al. (1997) as '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, or at similar levels of capability, for achieving policy changes to affect 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 firstly determining whether an initiative is sufficiently supported and effectively implemented by an organisation, and secondly whether 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 balance 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 of 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 attempted to resolve.

Conceptual foundations: the Community Readiness Model

The Community Readiness Model provides a practical research tool that has been developed by researchers at Colorado State University as a way of helping communities understand their strengths and vulnerabilities to manage and instigate change (Jumper-Thurman, et al. 1997). The methodology has proved 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.

The community readiness model is based on 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.
- the stage of readiness can be adequately assessed.
- groups can progress through the stages of readiness with appropriate intervention strategies, such as training.
- it is critical to identify the current stage of readiness and to be at a stage suitable for managing program development that implicitly requires change.

Research indicates that there are nine stages of readiness, listed below in Table 1.

Table 1. Stages of organisational and community readiness²

Stage	Description
1. No awareness, or tolerance	Issue not recognised, or community norms actively tolerate the behaviour.
2. Denial	Recognition of 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. Pre-planning	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; and effective evaluation leads to detailed and sophisticated knowledge of the related issues, which is used to test and modify programs.

Research design

For this study, an assessment of the readiness to engage in networking was applied to two NRM regional organisations in the Queensland Murray-Darling Basin, one local government body, and a number of Landcare and catchment groups. Prior to the development of the questionnaire, a number of focus group sessions were held to gain an appreciation of the range and quality of the networks that people engaged in NRM are involved.

The assessment followed a process whereby key informants were interviewed and asked a series of questions based upon a standardised, semi-structured interview schedule. In addition, the questionnaire (described earlier) 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 an 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 have been adapted to suit the purposes of network building in the Queensland Murray-Darling Basin NRM context.

Questionnaire design

The design of the questionnaire was based on a model used and made freely available for the purpose by the Tri-Ethnic Centre for Prevention Research, which is attached to Colorado State University in the United States.

The proforma questionnaire, which consists of a range of demographic questions followed by questions specific to the community readiness methodology, was retrieved from the Tri-Ethnic Centre website and modified to suit the specific requirements of the 'building healthier networks

² From Edwards et al. (2000)

for NRM in the QMDB' research project.

The extent to which communities are ready to engage in networking was assessed on the basis of answers that related to five dimensions of readiness. The dimensions are outlined below in Table 2.

Table 2. Five dimensions of community readiness³

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.

The community readiness component of the questionnaire consisted of a series of questions that conformed to the five dimensions of readiness, and from which respondents were able to choose from four responses on a Likert scale:

- not at all true
- slightly true
- moderately true
- very true

Answers to the questions formed the basis of the community readiness evaluation, which is described in more detail below.

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 to complete the community readiness questionnaire.

The community readiness model was applied to the following groups in the study area:

- Border Rivers Catchment Management Authority
- Chinchilla District Landcare Group
- Condamine Alliance.
- Condamine Landcare Group
- Crows Nest Catchment Group
- Crows Nest Shire Council
- Department of Primary Industries and Fisheries (staff members engaged in NRM activities)
- Inglewood Shire Landcare Group

³ Adapted from Edwards et al. (2000)

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- Maranoa-Balonne Catchment Management Authority
- North East Downs Landcare Group
- Queensland Murray-Darling Committee Inc.
- Tara Landcare Group
- Warwick Landcare Group.

Following an assessment of readiness, intervention strategies were suggested as a way of motivating the group or organisation towards a heightened level of readiness to engage in networking or network building for NRM-related purposes.

The first stage of the assessment process was an individual interview with key members of the group or organisation. 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 sources of information, leadership, knowledge of issues, funding and general community support, and general questions relating to what the respondent derives from belonging to, or being involved in, an NRM network. The purpose of the interview was to stimulate issues that would arise later in the survey, and to provide qualitative data that could be used to provide additional information and illuminate the data collected through the questionnaire.

Following the interview, the questionnaire was left with the interviewee to complete in their own time and return to the researcher. Attempts were made to ensure that at least two or three members of each group or organisation were 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 was made of the readiness of the organisation to engage in networking or network building. The intention was for comparisons to be made between organisations that operate at similar levels within a conceptualised hierarchical structure, focusing on organisations at 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 cooperative engagement could be ascertained.

The information from the questionnaires was first entered into SPSS (statistical analysis software) to simplify the extraction of demographic data in descriptive form. From there, the data were imported into a suitable spreadsheet program (Microsoft Excel) to perform computations that are not available in SPSS.

To enable assessment to take place, questions were grouped according to the five dimensions of readiness, described above in Table 2. Responses to questions that related to each dimension were summed and divided by the number of questions in the dimension to produce a mean score. Thus, the mean score for each dimension was used to identify the stage of readiness for that dimension.

Finally, the mean scores for the dimensions were summed and then divided by five (i.e. the number of dimensions) to produce an overall readiness score. The overall readiness score was then used as a basis for determining appropriate intervention strategies to motivate the group or organisation to a heightened stage of readiness to engage in network building. The intervention strategies, which included briefing sessions and training courses, were modified according to the estimated stage of readiness for each group.

Attention will now be directed towards explaining the intervention strategies that the readiness model has identified.

Strategies to increase the level of readiness

The researchers responsible for developing 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 that have been applied in previous research (Edwards et al. 2000) include:

- using the media to increase awareness
- conducting focus groups to prepare plans that address particular local issues
- developing and sharing ideas or information with other communities and groups.

'Generic' training packages have been developed for the current study. These can be 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 therefore be tailored to specific requirements of the group or organisation under review. Organisations involved in the assessment may accordingly 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 this way, a contribution can be made towards building the capacity of groups and organisations to engage in networking and network building.

Conclusion

Engaging community members in more sustainable natural resource management (NRM) activities is an important element of environmental and social sustainability in the Queensland Murray-Darling Basin.

One means by which this can be achieved is to extend the existing networks of people engaged in NRM activities. Previous research indicates that ideas for innovative solutions to environmental problems are 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 & Kearns 2001).

The Community Readiness Model has proved to be 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 progress toward higher stages of network building readiness.

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	<ul style="list-style-type: none"> • Community Readiness for Networking Self-Assessment Toolkit. Available from the websites of the Queensland Murray–Darling Committee and Condamine Alliance • Focus group script • Standardised, semi-structured interview schedule • Generic training packages
	<p>Grasby, D, Zammit, C, Pretty, G & Bramston, P 2005, <i>Building healthier social networks for sustainable natural resource management in the Queensland Murray–Darling Basin</i>, Final report on the SEO3 project University of Southern Queensland.</p>
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